

THE CONTRACT JOURNAL

INCORPORATING

THE BRITISH CONSTRUCTION ENGINEER AND THE CONTRACTOR

No. 4,204 81st YEAR

THURSDAY, JANUARY 21, 1960

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(3 cu. yd.)



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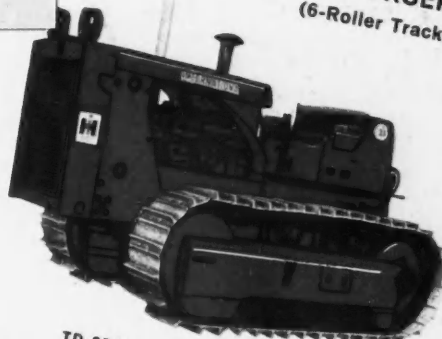
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DIESEL CRAWLER TRACTOR

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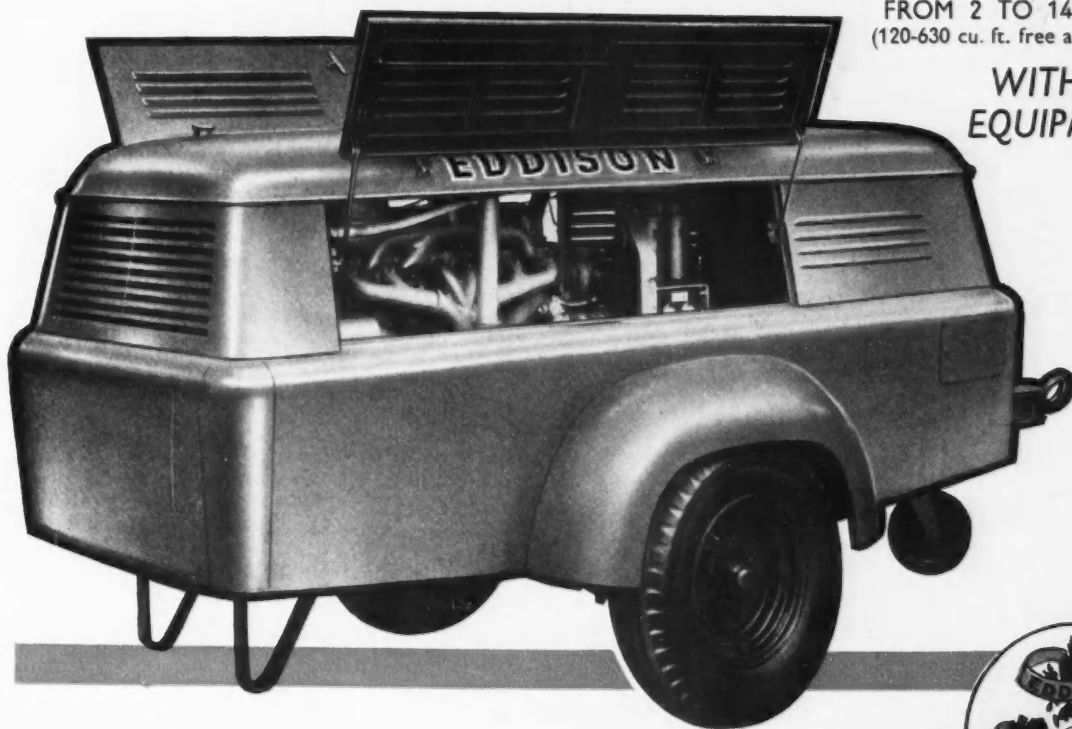
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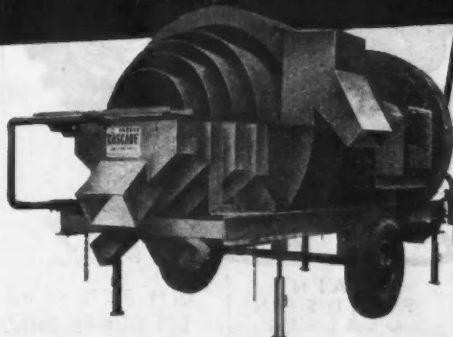


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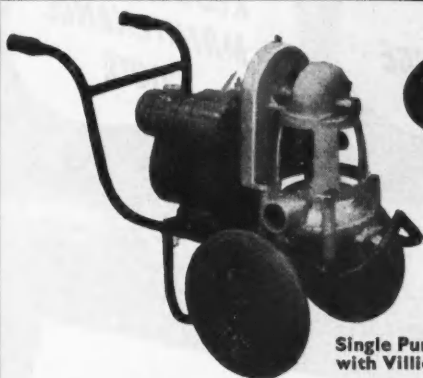
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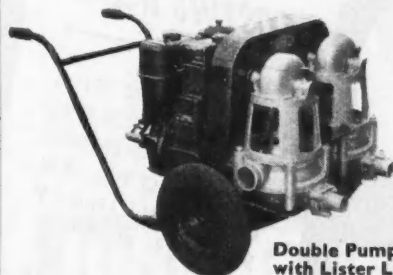
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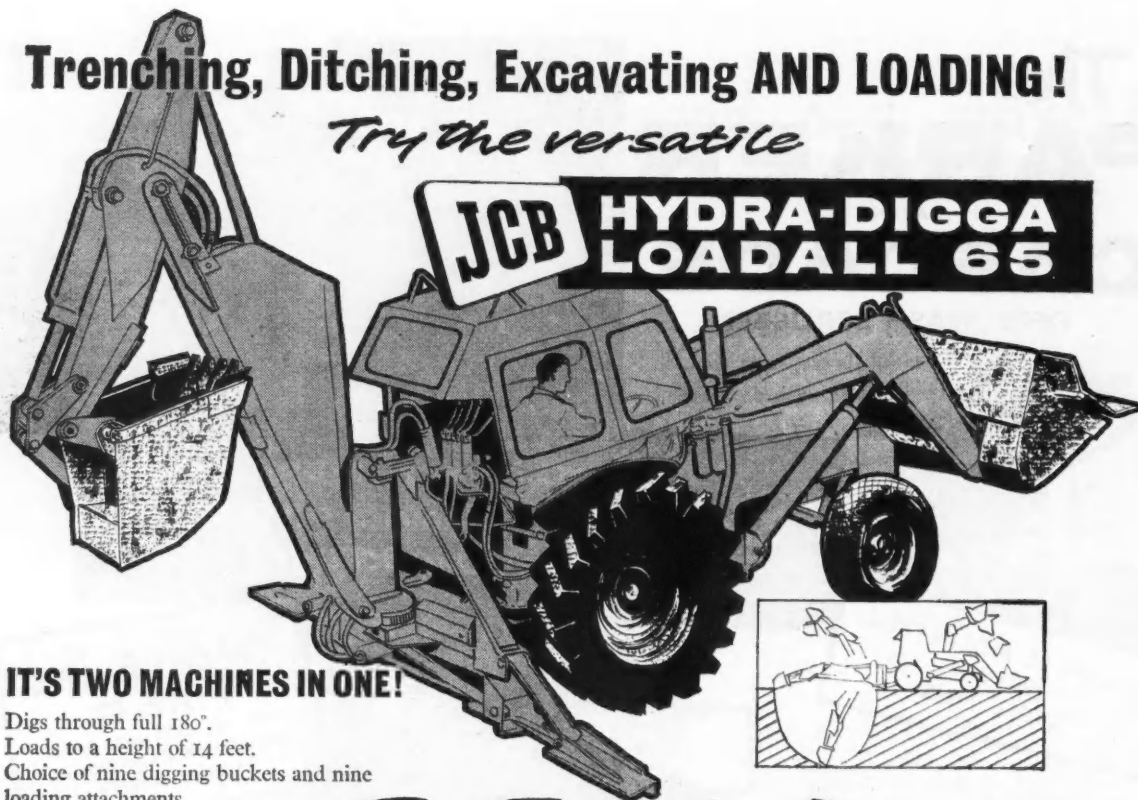
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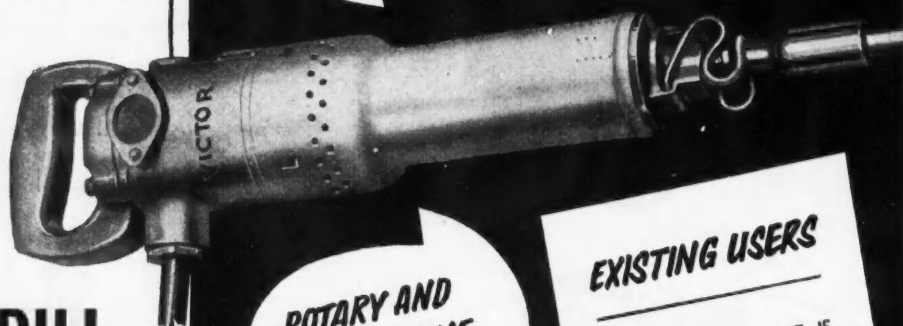
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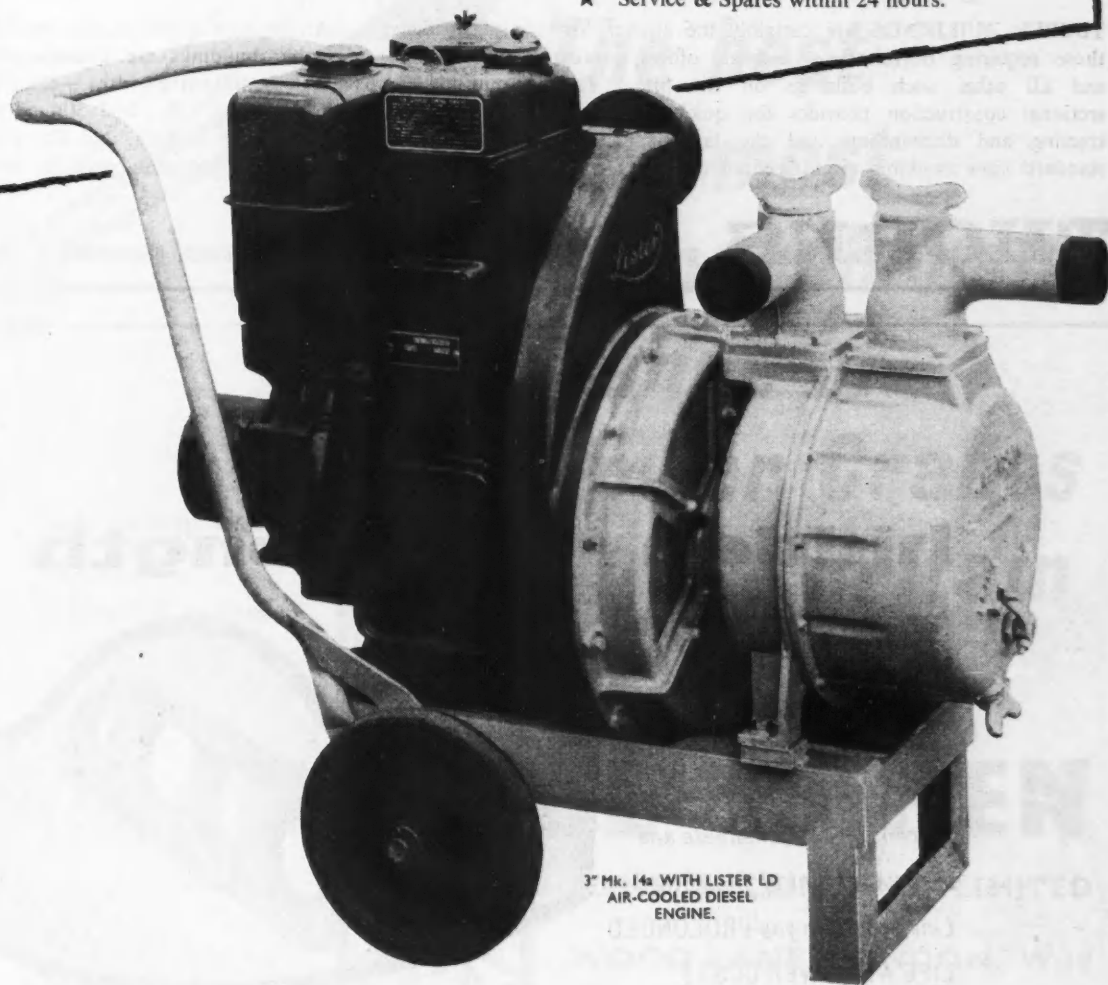
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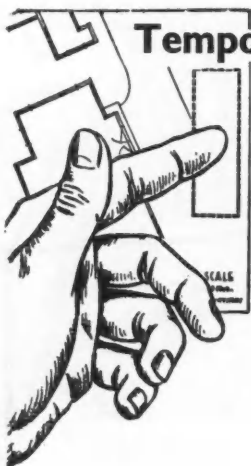
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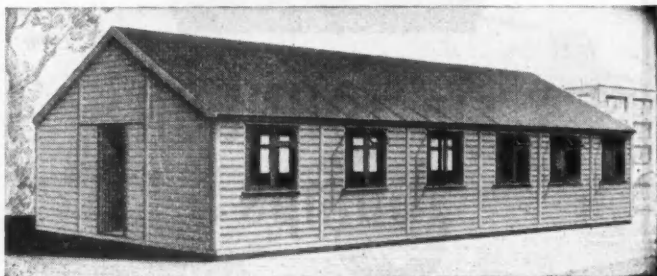
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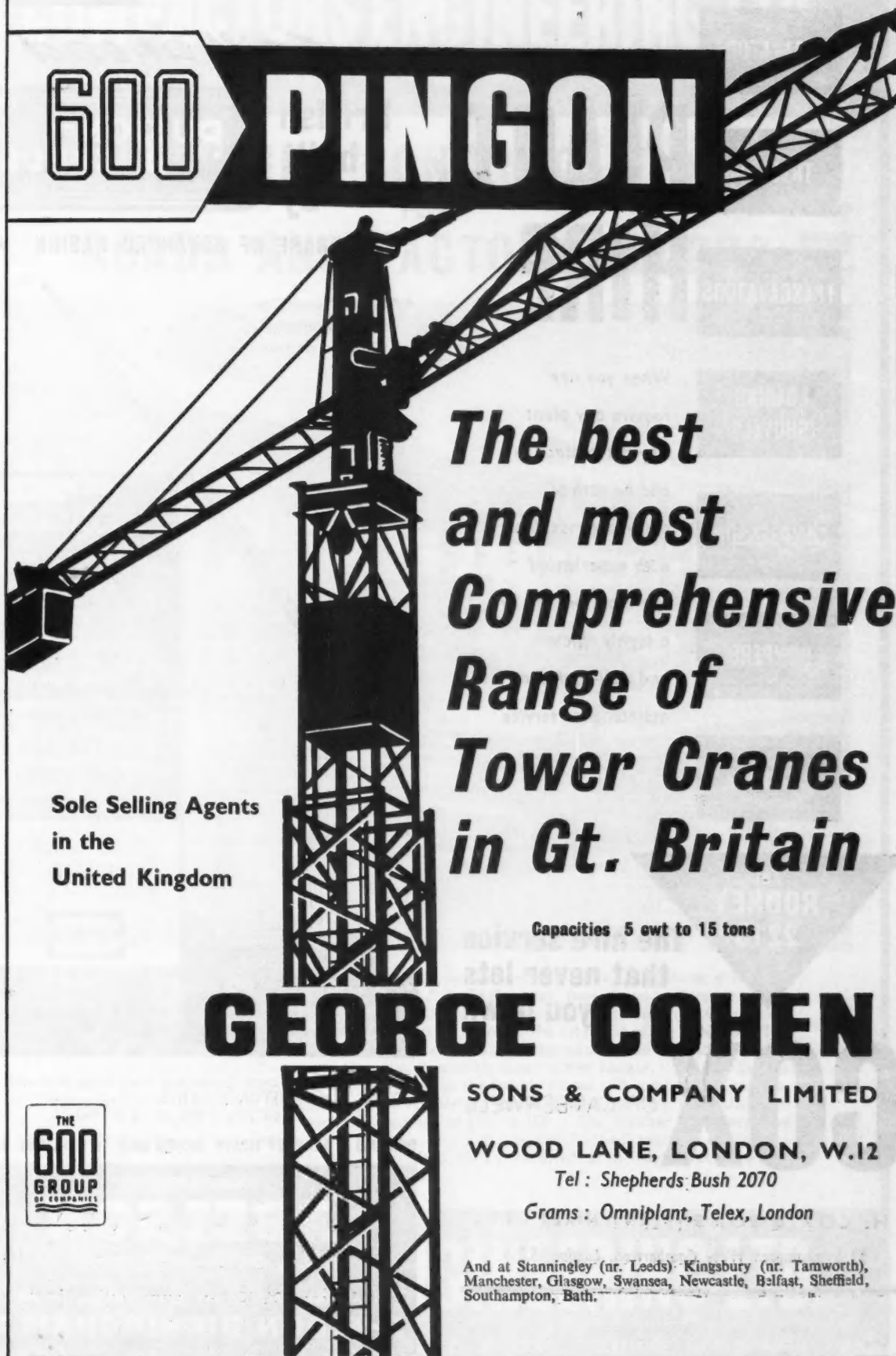
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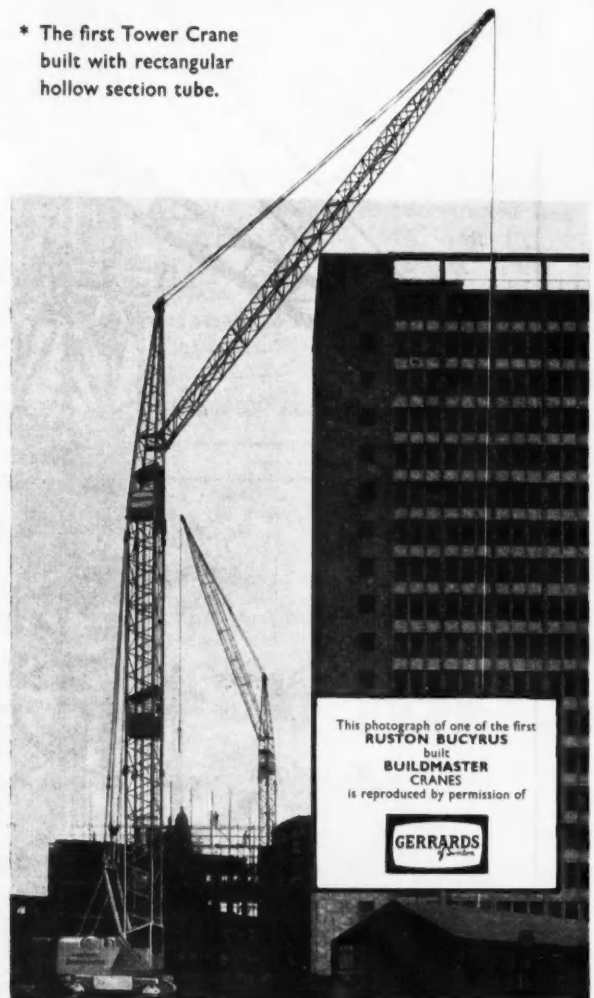
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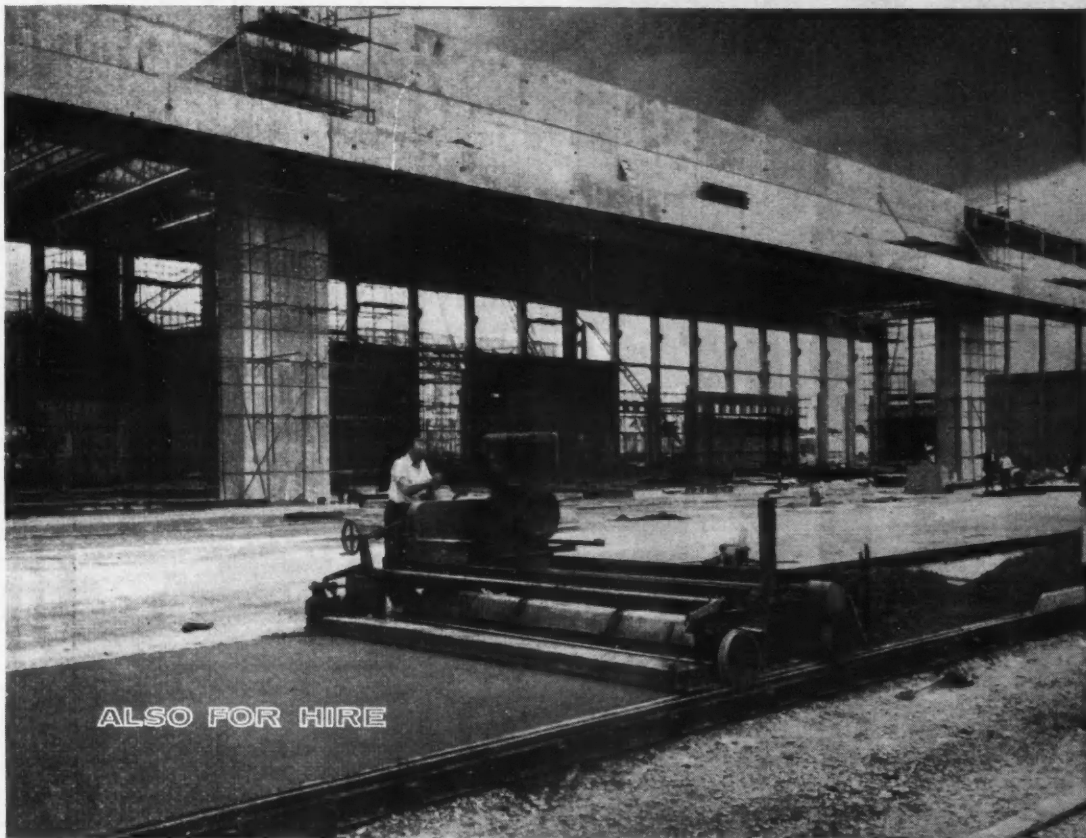
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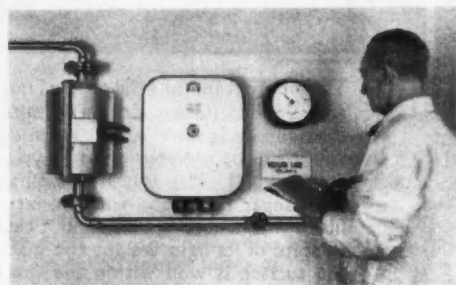
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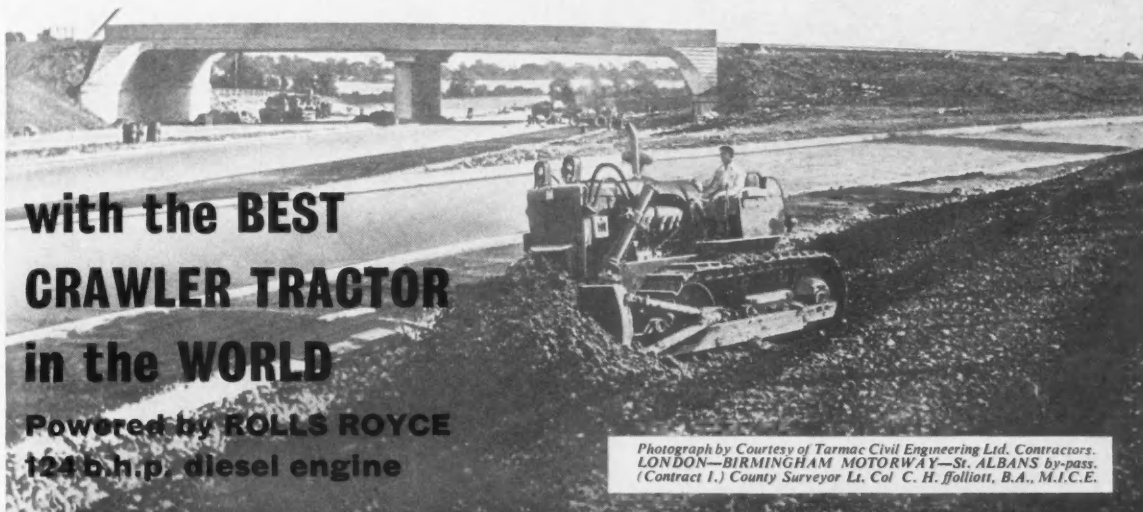
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(Contract I.) County Surveyor Lt. Col. C. H. Jolliffe, B.A., M.I.C.E.

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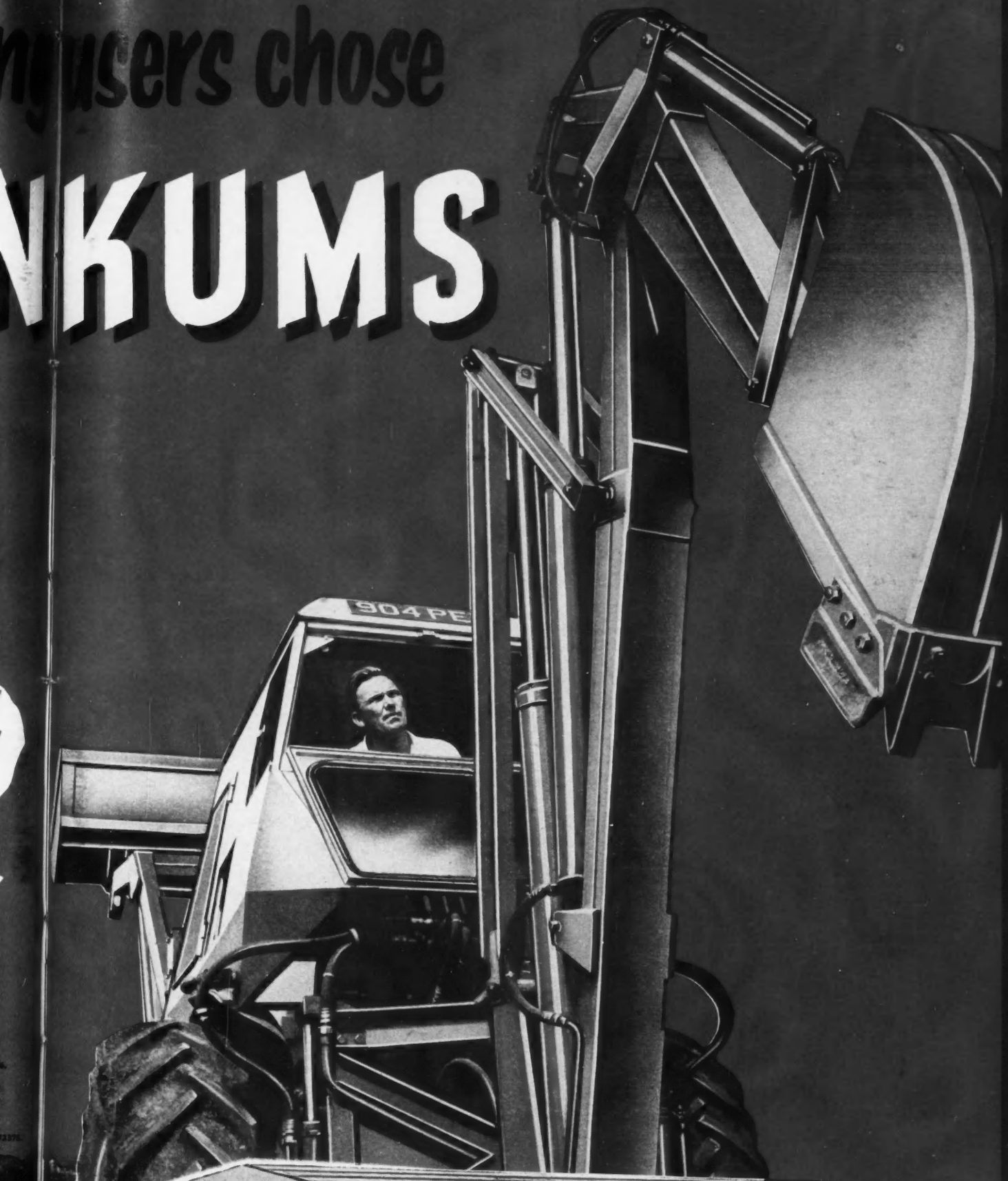
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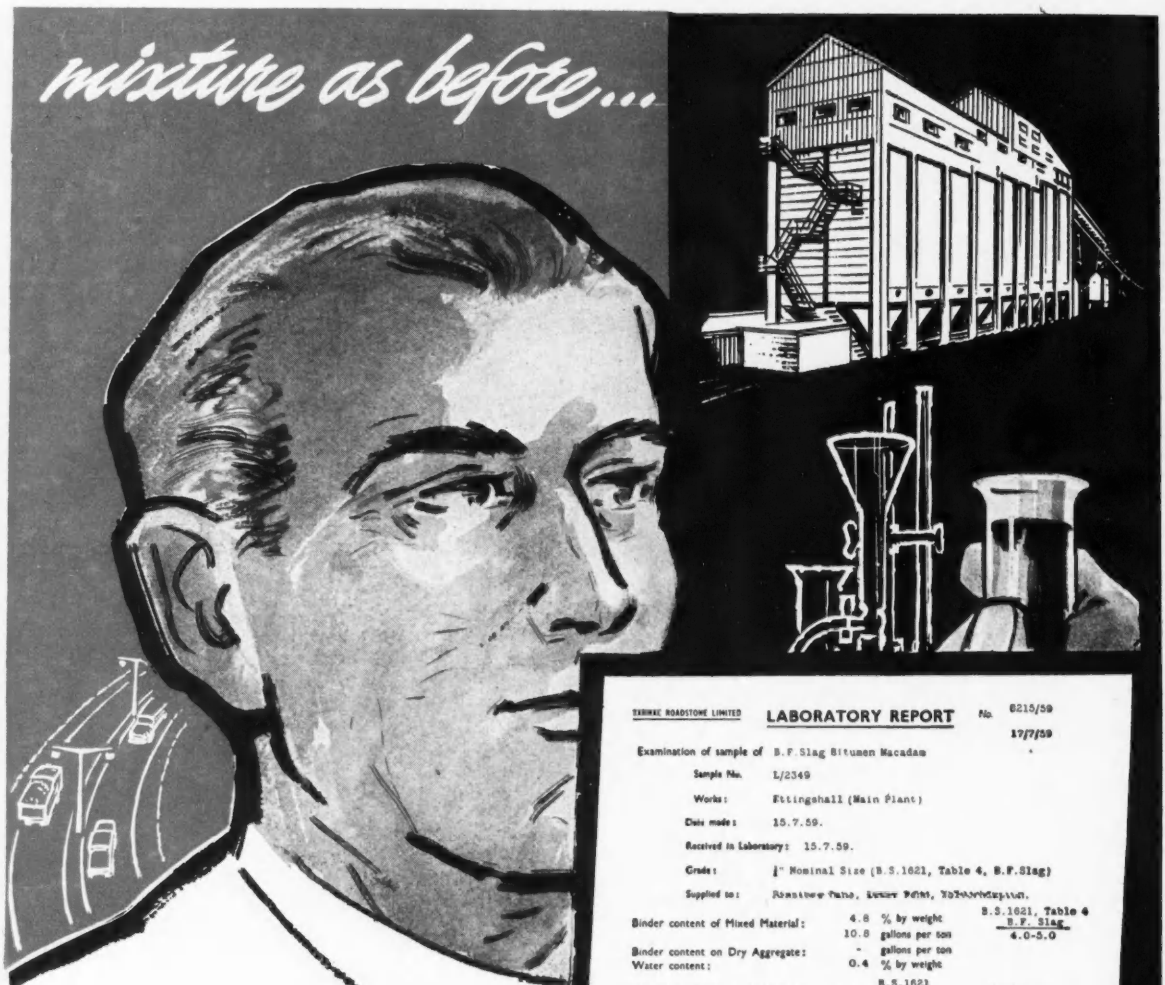
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LABORATORY REPORT

No. 0215/59

17/7/59

Examination of sample of B.F. Slag Bitumen Macadam

Sample No. L/2349

Works: Ettingshall (Main Plant)

Date made: 15.7.59.

Received in Laboratory: 15.7.59.

Grade: 1" Nominal Size (B.S. 1621, Table 4, B.F. Slag)

Supplied to: Doncaster Paving, Lutter Paving, York Paving.

Binder content of Mixed Material:	4.8 % by weight	B.S. 1621, Table 4
	10.8 gallons per ton	B.F. Slag
Binder content on Dry Aggregate:	-	4.0-5.0
Water content:	0.4 % by weight	

GRADING OF AGGREGATE	Sample	B.S. 1621 Table 4	BLEND
Total " by wt. passing:-	-	-	1" 40% by wt.
1" B.S. Sieve	-	100	1" 20% "
1/2" "	100.0	90-100	1/2" 35% "
1/4" "	73.2	50-80	1/4" Dust 5% "
1/8" "	19.5	15-35	11.0 g.p.t. G.B. Bitumen
1/16" "	6.4	5-20	
200 mesh "	2.2	2-8	

REMARKS

On receipt the sample appeared completely and adequately coated.

The binder content and grading of this material comply with British Standard Specification for 1" B.F. Slag Bitumen Macadam.

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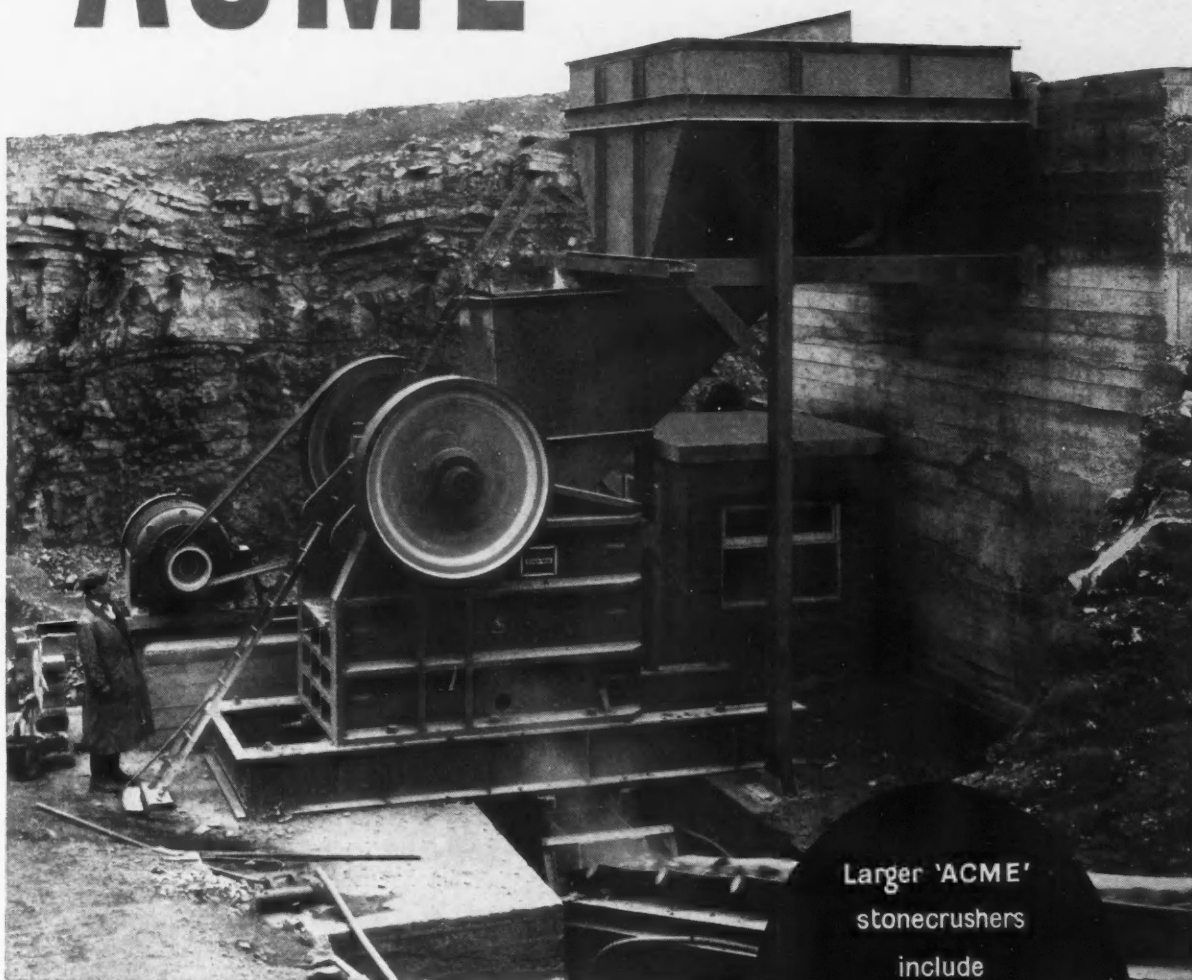
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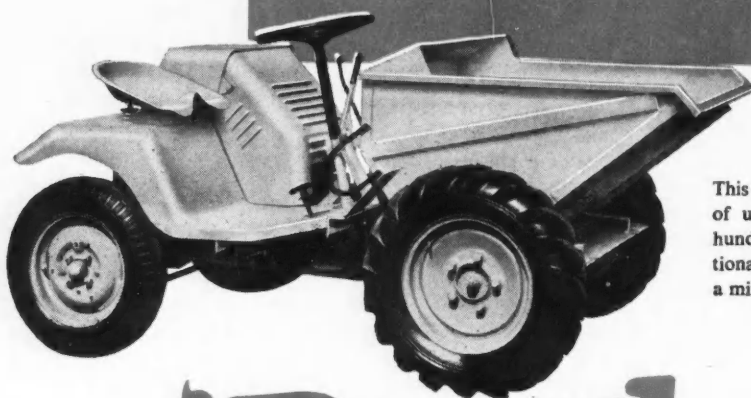
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A GOOD BRONC, FOLKS!*



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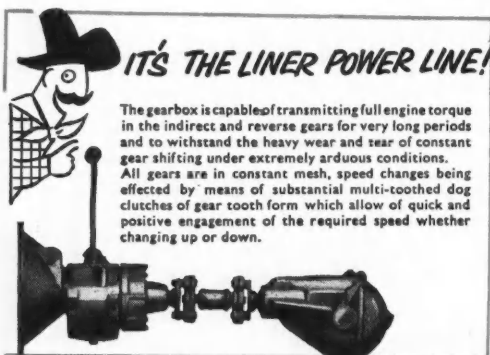


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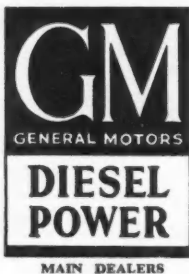
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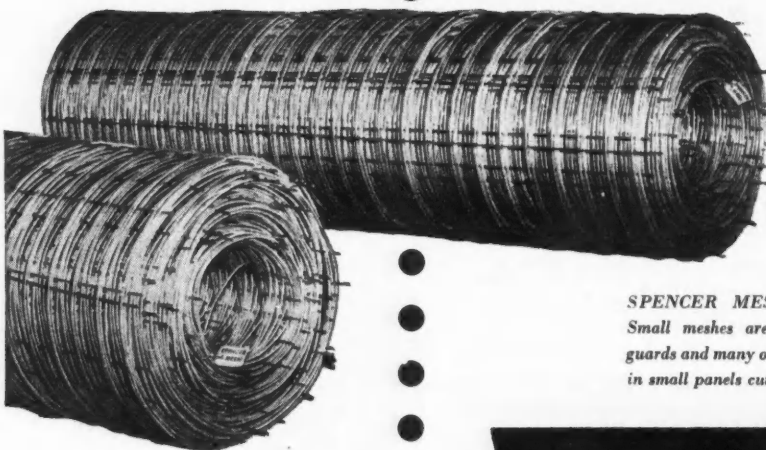
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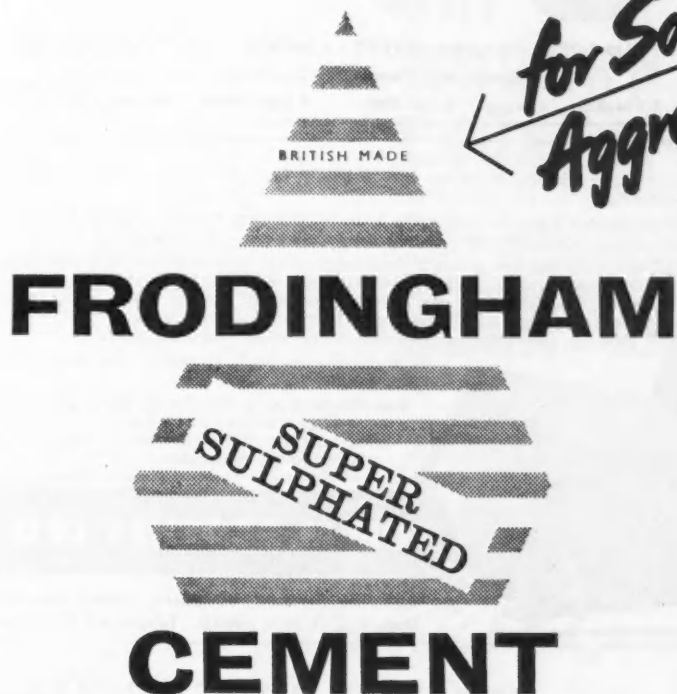
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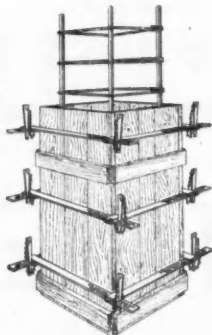
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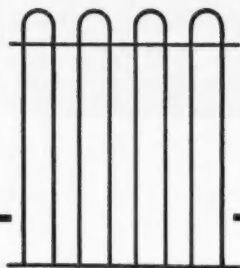
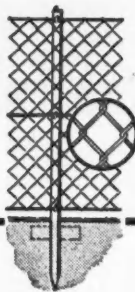
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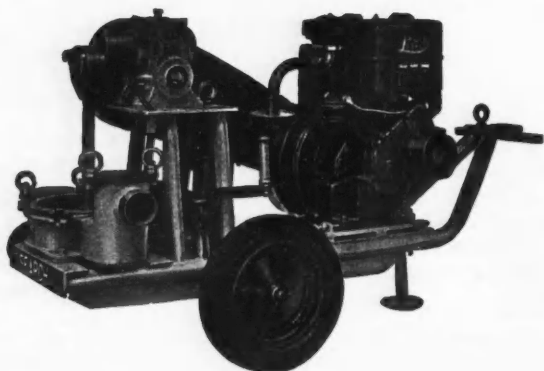
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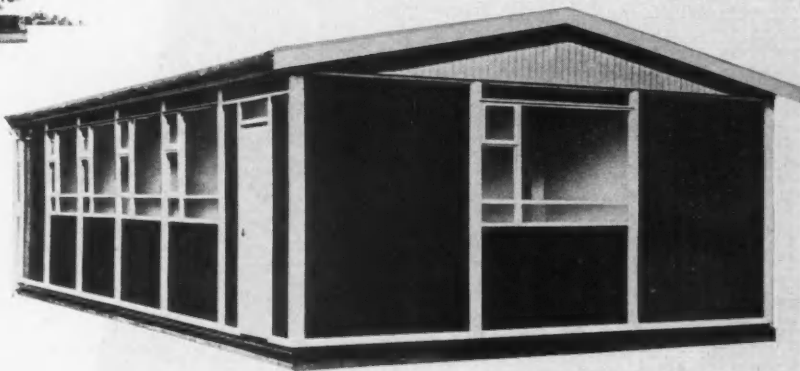
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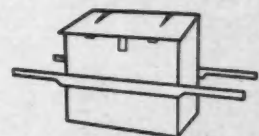
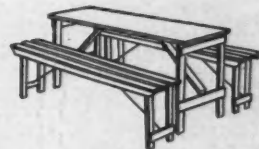
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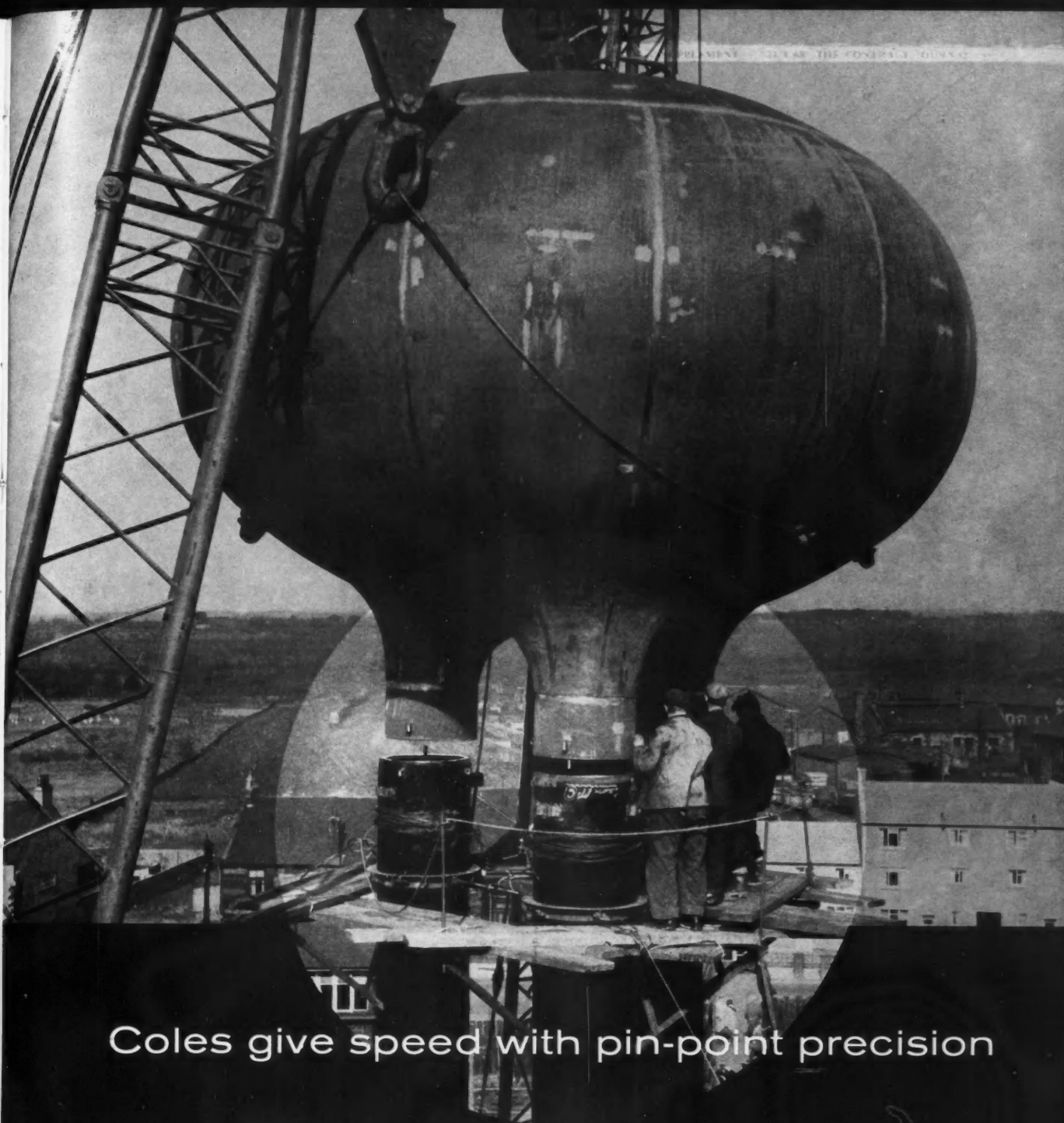


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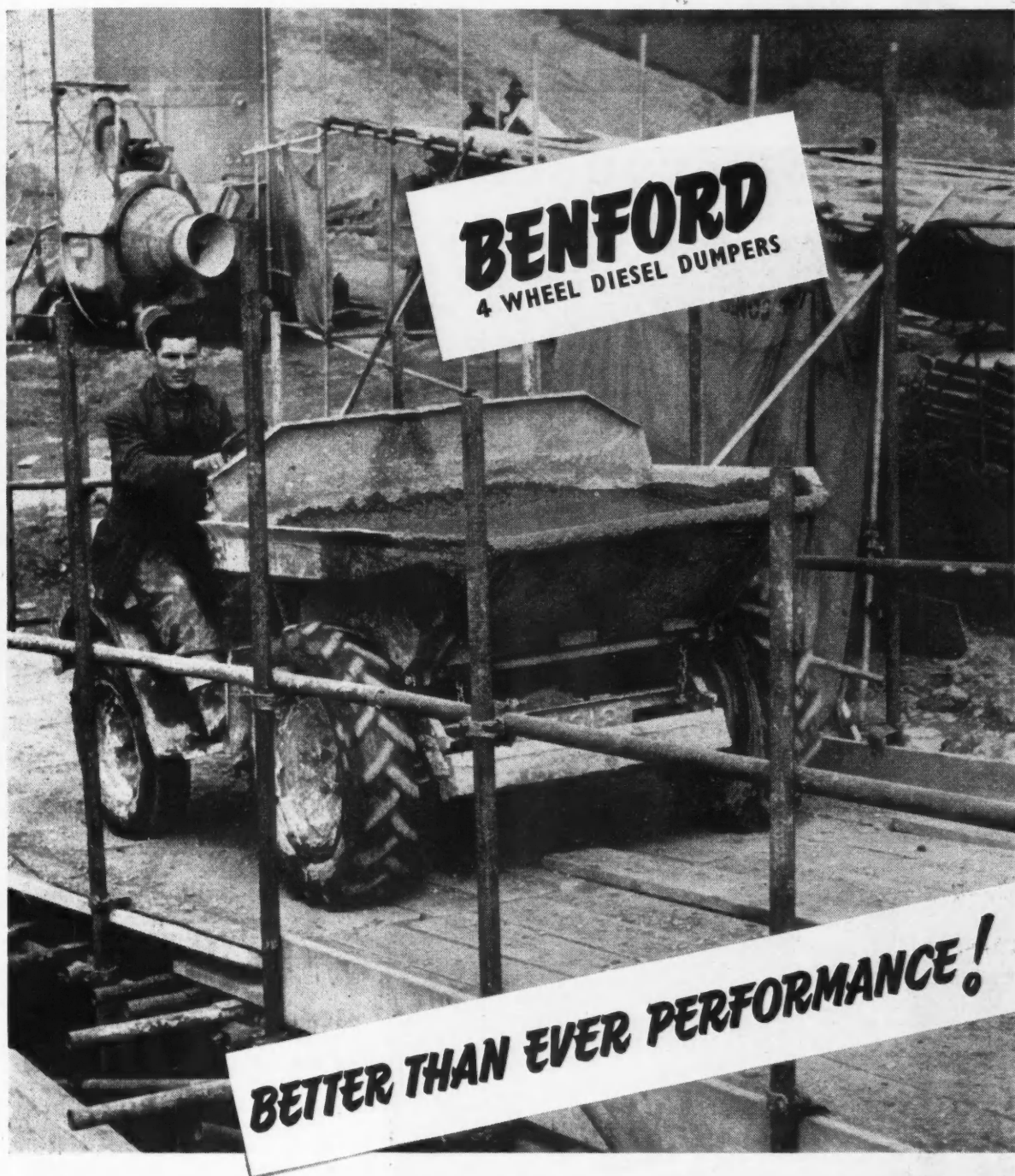
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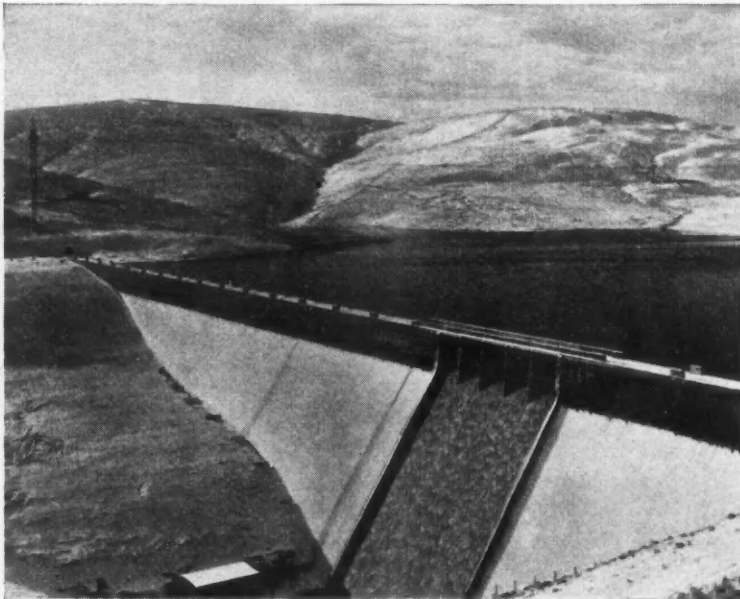
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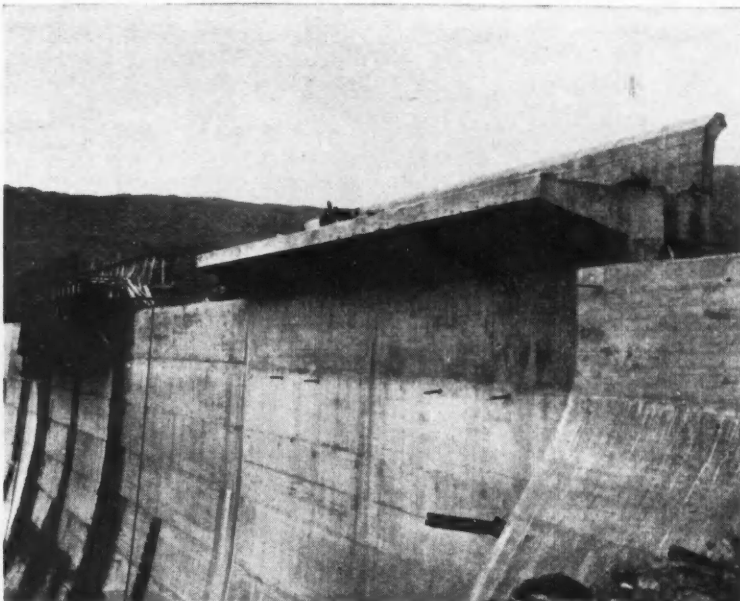
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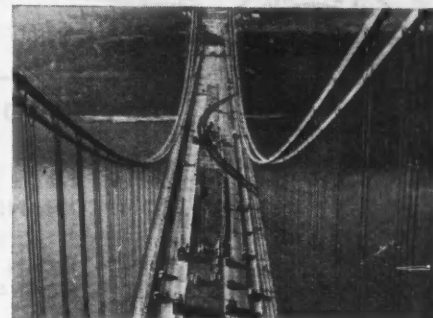
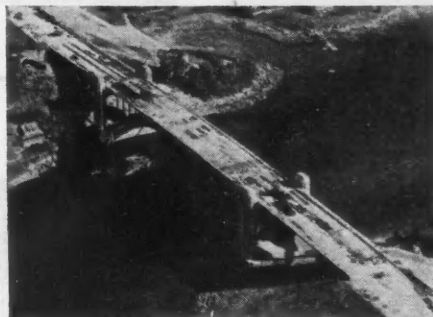


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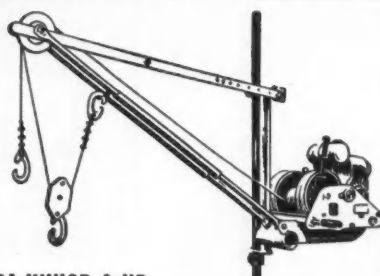


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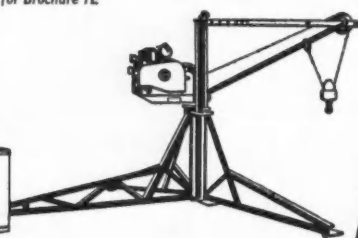


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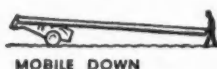
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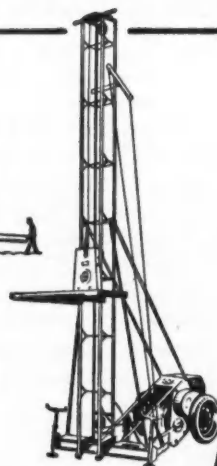
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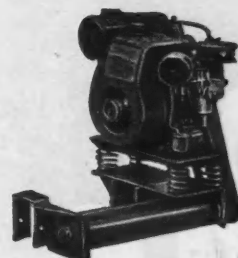
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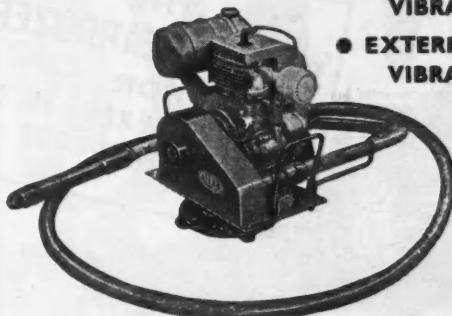
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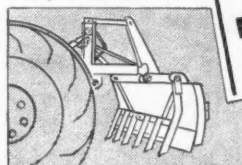
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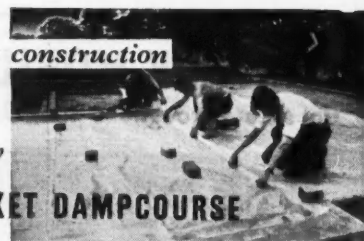
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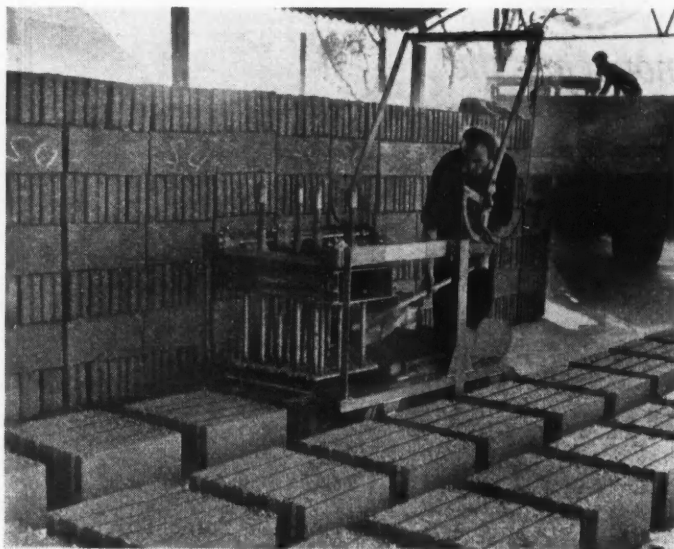
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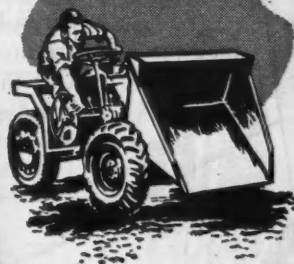
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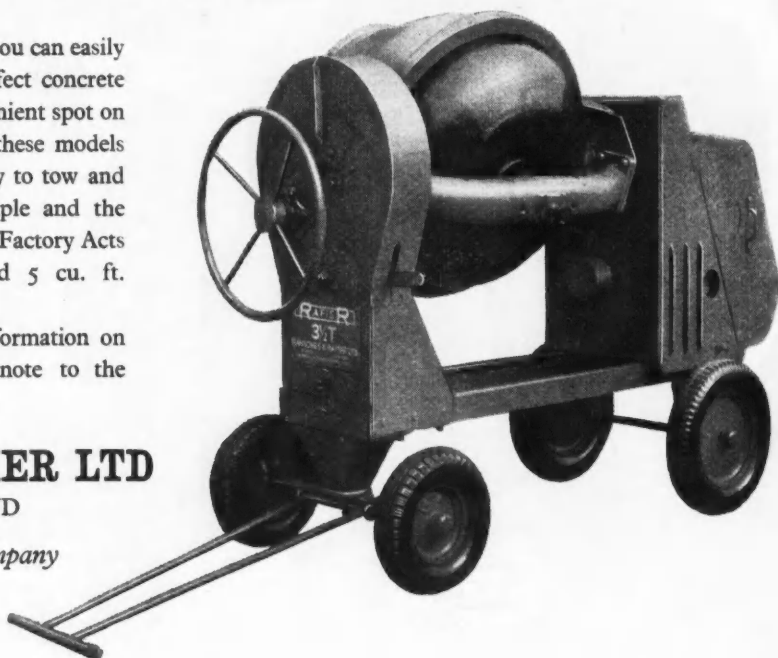
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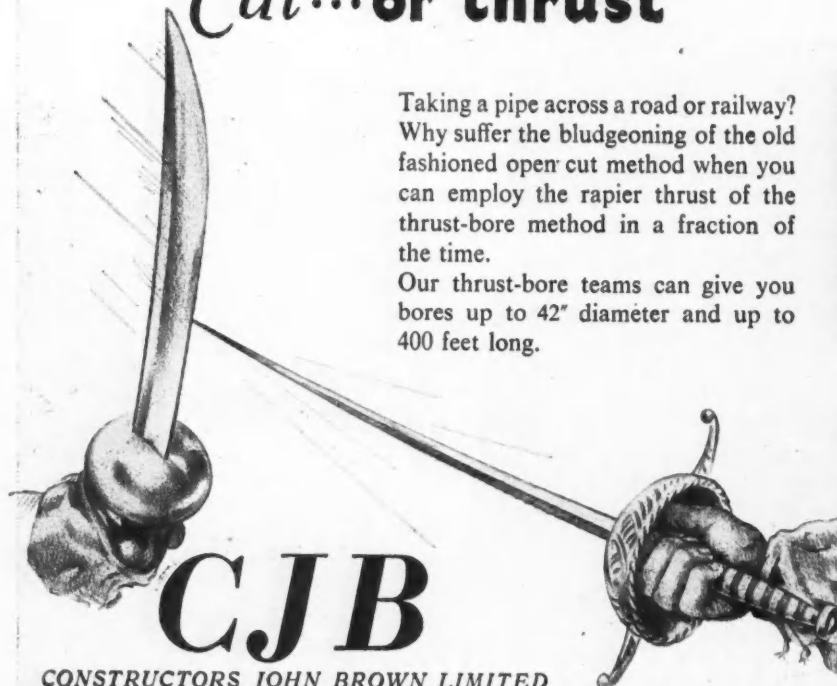
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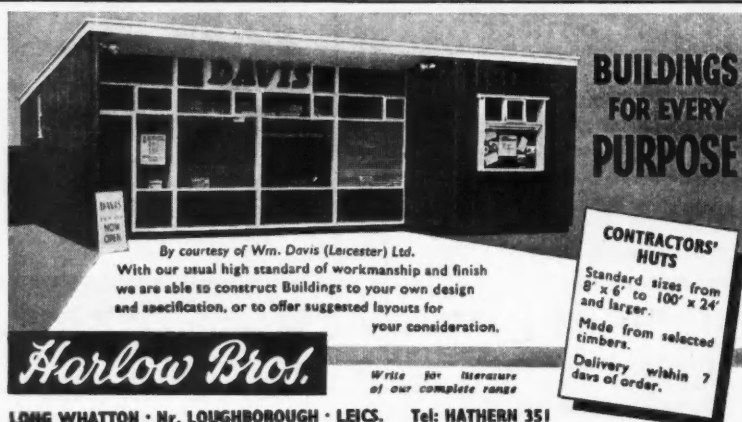
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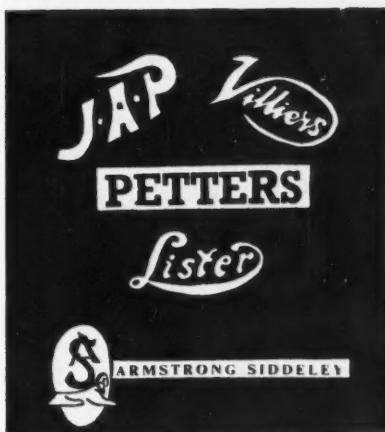
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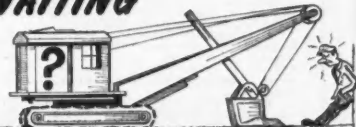
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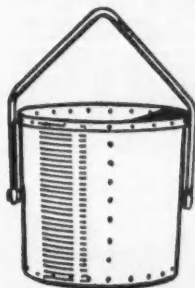
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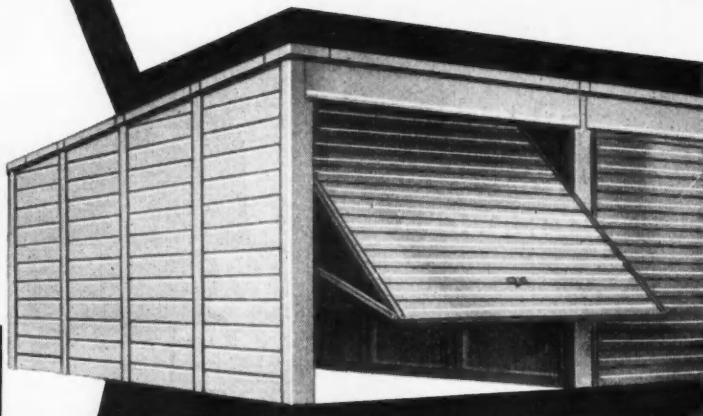
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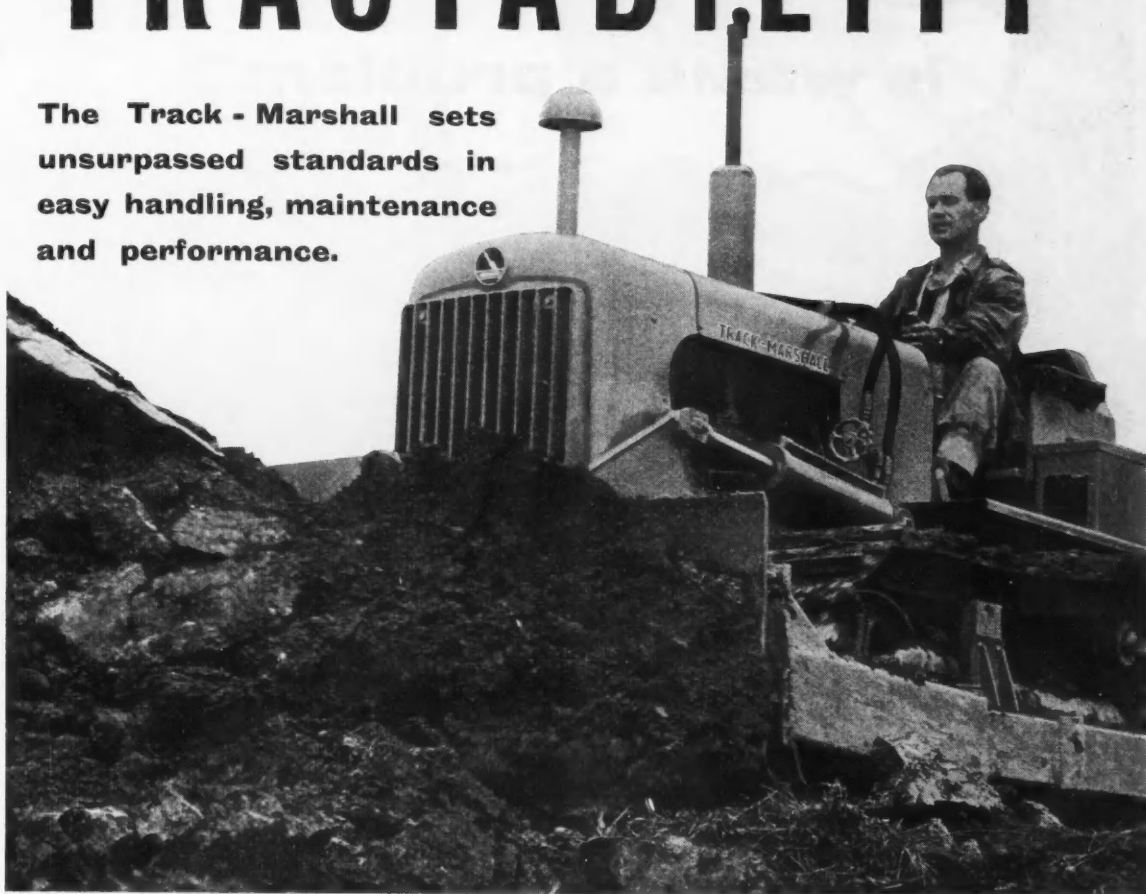
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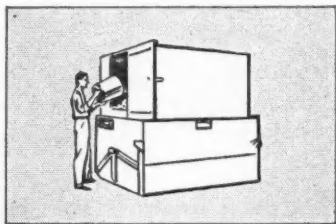
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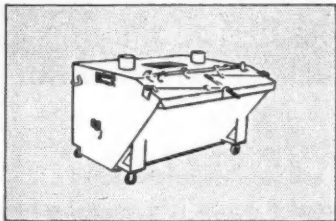
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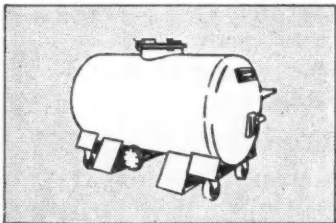
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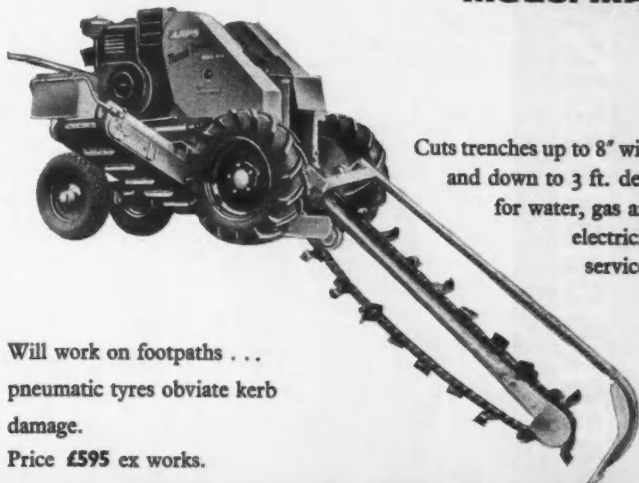
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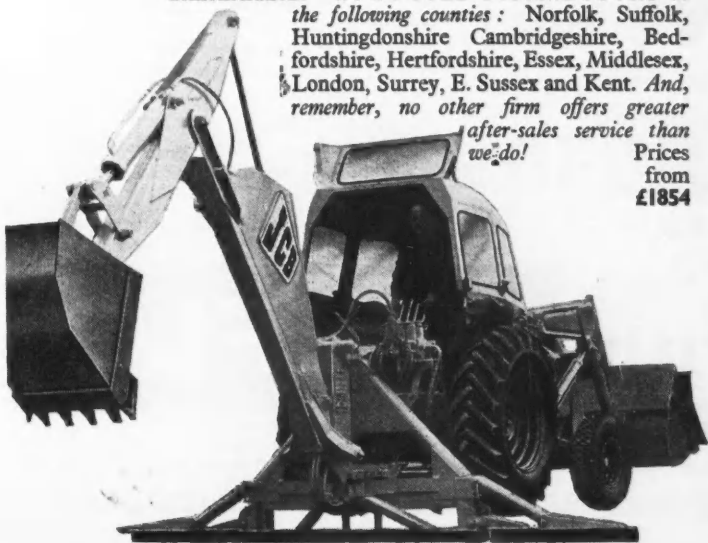
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Cut your repair bills with the strongest hydraulic excavator made, and the *only* excavator that will dig square holes in hard material. May we prove these facts by free demonstration. We are **SOLE DISTRIBUTORS** in the following counties: Norfolk, Suffolk, Huntingdonshire Cambridgeshire, Bedfordshire, Hertfordshire, Essex, Middlesex, London, Surrey, E. Sussex and Kent. And, remember, no other firm offers greater after-sales service than we do!

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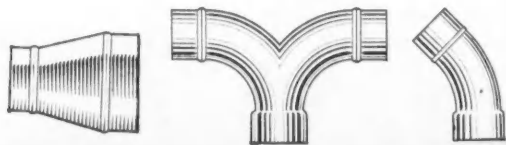


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Because VELFLO fittings are all-welded they are airtight throughout ; because VELFLO fittings are machine-made and precision-formed the flow path is smooth and unimpaired by any surface defects, flow resistance and noise are reduced to a minimum, and uniformity and economy are assured.



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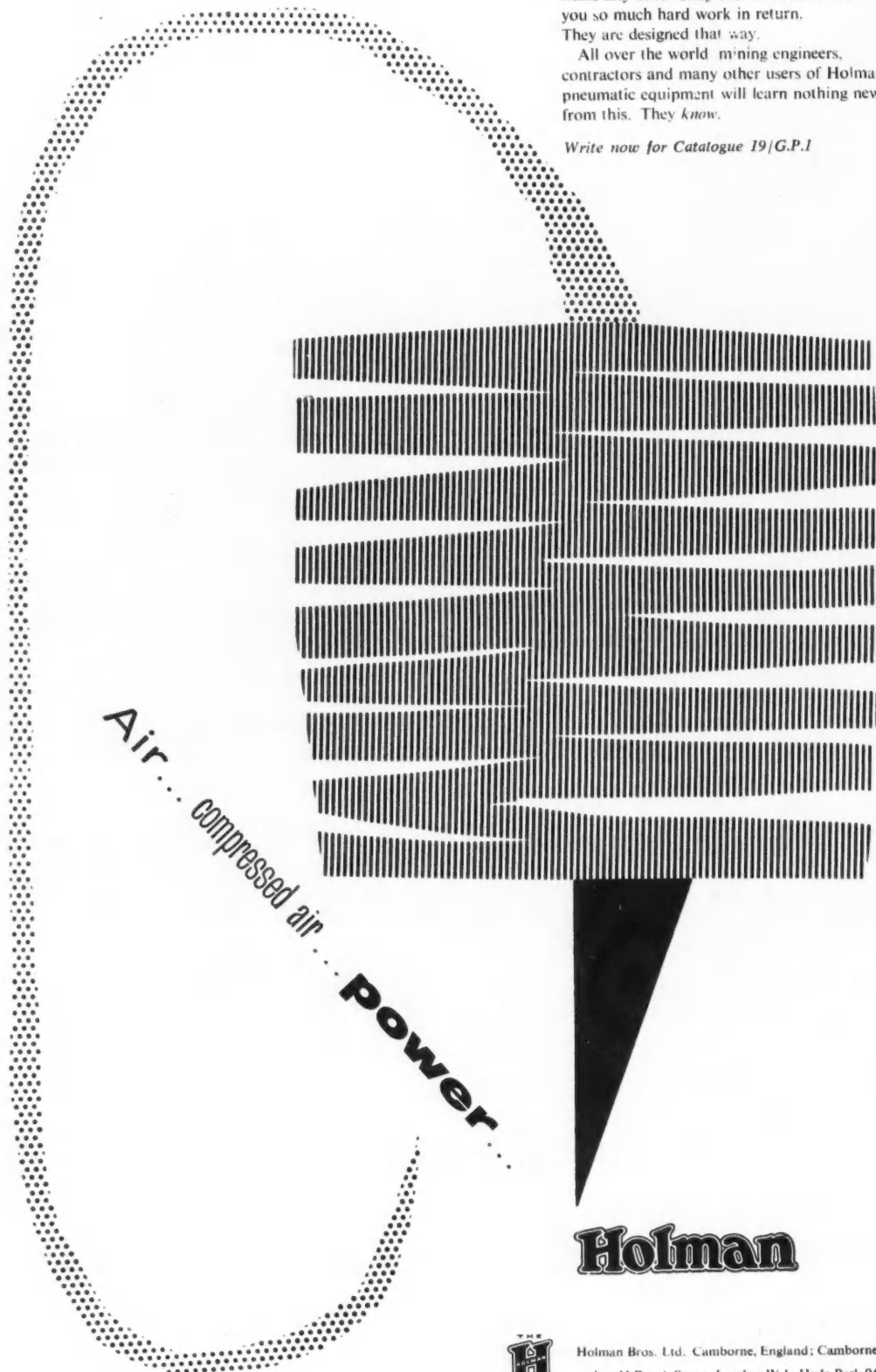
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Power. Power you can use in a hundred ways. Power that is safe, and easy to control. And it all starts with air.

Holman compressors turn air into power. Holman tools put that power to work for you. And — here's the important point — they do not waste any of it. They cost so little to run — give you so much hard work in return. They are designed that way.

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Holman Bros. Ltd. Camborne, England; Camborne 2275
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Automatic tipping is only ONE of the *Loadmaster's* advantages



Rapid erection

Loadmaster hoists need no skilled labour. No site preparation required.

Smooth operation

Spigot guides ensure smooth running.

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Basic components are small and compact...easily handled by normal traffic—lorry, dumper, etc.

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Platform speeds up to 250 ft. per minute. Long-life bearings fitted throughout.
Mark 1: 20 cwt. capacity. 12 cu. ft. automatic tipping-skip.
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Automatic tipping at working height up to 500 ft. ensures speedy placing of concrete.

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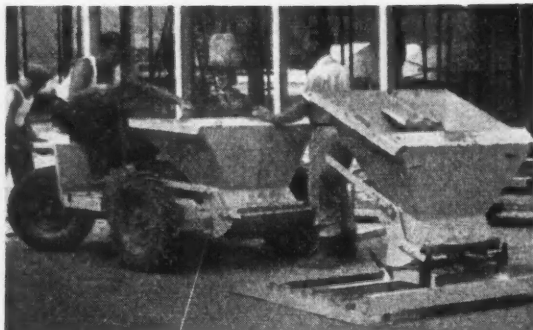
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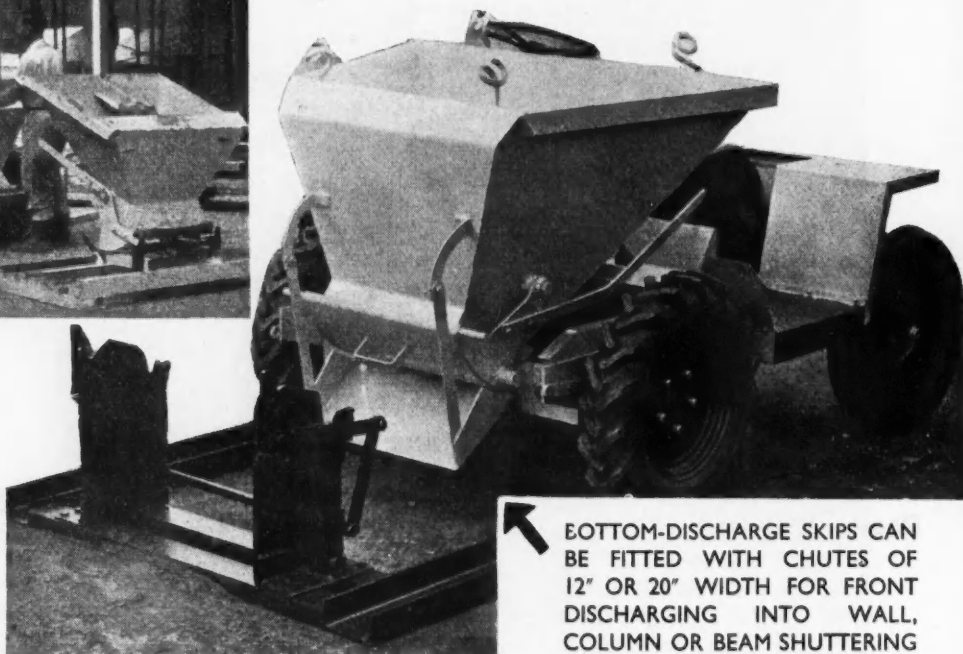
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WHEN OPERATED AS ABOVE ONE SKIP OF CONCRETE IS BEING PLACED WHILST THE DUMPER FETCHES ANOTHER BATCH IN A SECOND SKIP, TO MAINTAIN A QUICK, CONTINUOUS CYCLE.

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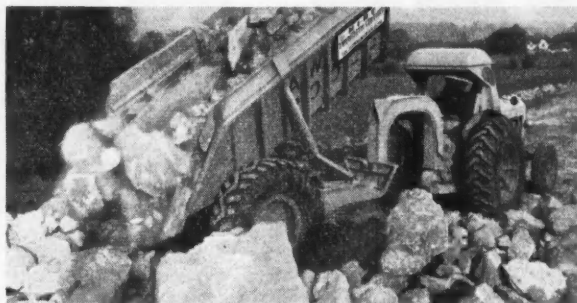
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D8 Tractors &
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Track Marshalls &
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New Drott 4 in 1
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Shawnee Poole at work on the New Maldstone By-pass. By permission of Sir Robt. McAlpine.

Marion 33m
Excavators Rigged as
Cranes, D/L, or
Face Shovel.

New J.C.B's.
 $\frac{3}{4}$ & 1 cu. yd. Dumpers.
5/3 $\frac{1}{2}$ — 14/10 Mixers.

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Marion at work in the City of London.

THE MARION EXCAVATOR

Here is a machine that gives you the highest crane capacity of a $\frac{3}{4}$ cu. yd. machine, with manoeuvrability, low ground pressure, unsurpassed stability, and ease of operation. By virtue of its all air controls, it is an easy machine to operate, and fast. Swan-neck and fly extensions can be fitted to facilitate the placing of a load. To see the MARION at work is to know the machine you need.



British Certified Crane Lifting Capacities
Safe Working Load in Tons

Radius	50ft. Boom	66ft. Boom	70ft. Boom
15ft.	7.70 tons	7.50 tons	—
20ft.	5.08 tons	5.00 tons	4.80 tons
25ft.	3.75 tons	3.50 tons	3.25 tons
30ft.	2.92 tons	2.75 tons	2.60 tons
35ft.	2.35 tons	2.25 tons	2.20 tons
40ft.	1.95 tons	1.75 tons	1.60 tons
45ft.	—	1.50 tons	1.50 tons
50ft.	1.40 tons	1.25 tons	1.20 tons
55ft.	—	1.15 tons	1.10 tons
60ft.	—	0.75 tons	0.65 tons

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FOR SALE :— D8 2U 15,000 Series Machine — £3,150

With Birtley Hydraulic
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This is a first-class
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20-ton Lorry Mounted Crane £5,500

Marion 33m on White chassis — Lying Watford.
Lifting capacities with 45ft. Jib.

Radius	Lift
12ft.	20 tons
15ft.	14 tons
20ft.	10 tons
25ft.	8 tons
30ft.	6 tons

A Number of D8's, D7's & D6's
with L.P.C. equipment, and
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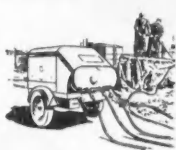
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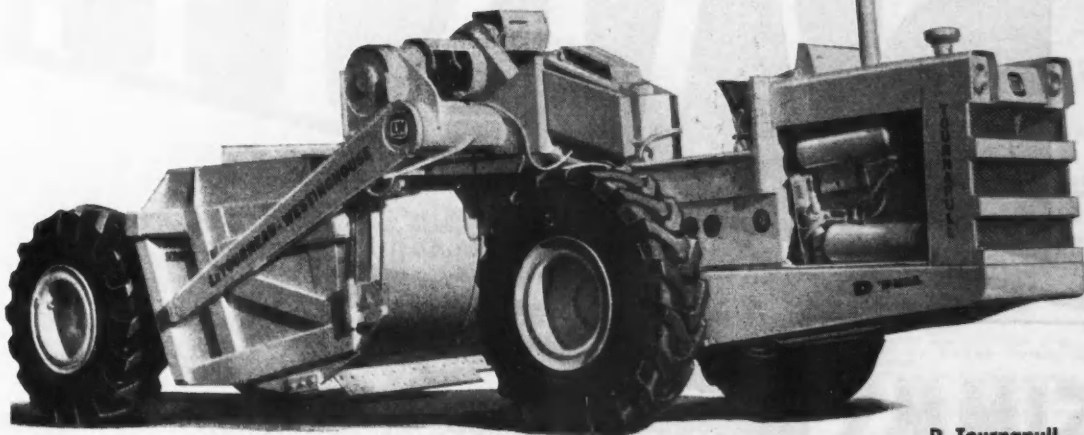
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NOW another D 'Pull profit-builder ...your choice of transmissions

There is a new addition to the impressive list of production-boosting, cost-cutting advantages you get with the D Tournapull. Right now, you can order new "D's" with either of two of the most rugged and efficient transmissions ever developed. They are:

143 hp
7.3 cu yd struck
9 cu yd heaped
30 mph



D Tournapull

ALONE in its size-range offers you:

ROADABILITY: meets 8-foot width and weight limits, for quick, low-cost moves. Travels over city streets, curbs, anywhere, at up to 30 mph.

POWER-TRANSFER DIFFERENTIAL: automatically keeps greater power on drive wheel in best footing. Keeps production high on terrain that stops other units.

ELECTRIC CONTROLS: fastest-responding, simplest-operating, easiest-maintained control system built. Your operator works faster, more productively.

LOW PRICE: gives you more for your money, and around the world it brings its owners the highest trade-in value.

And D 'Pull LEADS its size-field these important ways:

BEST POWER-WEIGHT RATIO: Each of its 143 units of horsepower has to power only 299 lb. You move payweight, not deadweight. It is best on grades, and accelerates fast.

SHORTEST TURN RADIUS: Makes continuous 180° turn in area less than its own length for quick manoeuvrability in tight quarters. With flat scraper bottom, "D" does an excellent job on finish work.

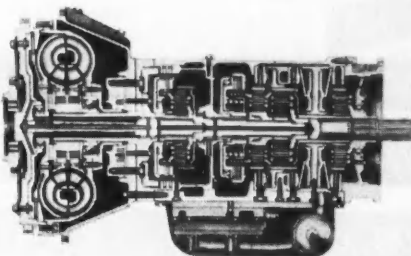
BIGGEST BRAKES: Has up to 4 times more brake surface than other scrapers for SURE safe stops. Your operator uses higher speeds more confidently.

Get this free "D" booklet now:

We will send you this brand-new booklet explaining all about the LeTourneau-Westinghouse D Tournapull. It shows you how to make more money on any-size job with this rugged "go-anywhere" machine. It also explains every major mechanical component of the "D", including the two new transmissions. You will want it for your equipment-data files.

*Pull—Trademark; Tournapull—Trademark
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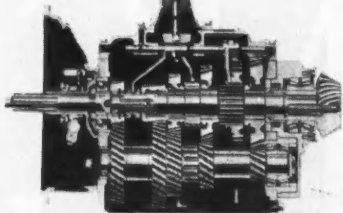
1 Power-shift with torque converter:



Allison transmission includes power-saving automatic lock-up feature.

If you often work in loose or soft materials, and your machines are usually subject to rapidly changing loads, you will want your "D" equipped with the Allison Torromatic CLT 3340 transmission, now available. It automatically adjusts speed and torque to your load, keeps your D 'Pull working at fastest practical speed. Torque converter also cushions engine and drive-train from shock-loads for smoother operation, longer machine life. Infinite speeds through 4 ranges, to 30 mph; two reverse to 6.9.

2 Step-gear standard transmission:



Designed and built specifically for LeTourneau-Westinghouse this step-gear transmission is the strongest in its class.

If most of your work is on jobs where haul-roads are well-maintained, and you work in generally normal footing, your D 'Pull equipped with the special Fuller 5G-720 step-gear transmission will give you extra operating economy. You get automatic filter action, full-pressure lubrication, and clutch-saving inertia brake. Gear teeth are crown-shaved, and the case is super-heavy. Five forward speeds to 26.1 mph, reverse 2.8.



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D TYPE TOURNAPULLS-54, 22 & 19RB EXCAVATORS WITH FACE SHOVEL EQUIPMENT

D8 TRACTORS & SCRAPERS & SUITABLE BULLDOZER EQUIPMENT

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CABLES CONTRACTS. NOTTINGHAM 66264 (Ten Lines)

CONTRACTS

BEDFORDSHIRE COUNTY COUNCIL.
IPSWICH-WEEDON TRUNK ROAD, ROUTE A.428.
PRIORY FARM TO TURVEY RAILWAY BRIDGE.

TENDERS are invited for the WIDENING and REALIGNMENT of the TRUNK ROAD between the POINTS NAMED ABOVE for a length of approx. 800yd. The Works entail Clearing Site, Surface Water Drainage, Kerbing and the Construction of a 24ft. wide Carriageway with Dry Lean Concrete and Gravel Asphalt Base and Granite Asphalt Surfacing.

Copies of the Conditions of Contract, Specification and Bill of Quantities can be obtained from the County Surveyor, Dents Road, Bedford, on the payment of Two Pounds deposit, which will be refunded on receipt of a bona-fide Tender or the return of all documents before the closing date. The Drawings may be examined at the above office by appointment during working hours. Tenders must be returned to me by the 4th MARCH, 1960.

The Council do not bind themselves to accept the lowest or any Tender received.

GEORGE BREWIS,
Clerk of the County Council.

Shire Hall,
Bedford.

COUNTY BOROUGH OF DUDLEY.
RESURFACING OF NEW ROWLEY ROAD.

APPLICATIONS to TENDER are invited for the ABOVE CONTRACT, which consists of—
10,700 sup. yd. of Hot-rolled Asphalt,
2,800 sup. yd. of Bituminous Macadam to Foot-paths,
850 lin. yd. of Concrete Kerbing and ancillary Works.

Applications must be submitted to the Borough Engineer, The Council House, Dudley, Worcs., together with a deposit of £5 5s., which will be returned on receipt of a bona-fide Tender not subsequently withdrawn and the return of all documents.

The latest date for the receipt of applications is THURSDAY, 28th January, and Tender documents will be forwarded as soon as possible after that date.

P. D. WADSWORTH,
Town Clerk.

The Council House,
Dudley,
Worcs.
5th January, 1960.

BOROUGH OF HEMEL HEMPSTEAD.

SUPPLY OF
REFUSE COLLECTION VEHICLE,
TRACK-LAYING DOZER/LOADER,
STREET LIGHTING MOBILE WORKSHOP.

TENDERS are invited for the SUPPLY and DELIVERY of the VEHICLES AFOREMENTIONED.

Brief particulars of requirements, together with Forms of Tender, may be obtained from A. H. TURNER, A.M.I.C.E., Borough Engineer, High Street, Hemel Hempstead, at whose office the General Conditions of Contract may be inspected during normal office hours.

Tenders, in sealed envelopes endorsed to indicate the type of vehicle offered, and bearing no mark or identification of the sender, must be delivered to me not later than Noon on MONDAY, 1st February, 1960.

The Corporation do not bind themselves to accept the lowest or any Tender.

C. W. G. T. KIRK,
Town Clerk.

Town Hall,
Hemel Hempstead,
January, 1960.

ST. ALBANS CITY COUNCIL.

ALTERATIONS AND ADDITIONS TO
CITY MUSEUM.

TENDERS are invited for the PROPOSED ALTERATIONS AND ADDITIONS to the CITY MUSEUM, HATFIELD ROAD, St. Albans.

Form of Tender and Bill of Quantities can be obtained from, and Drawings inspected at, the office of the City Engineer and Surveyor, 16 St. Peter's Street, St. Albans, on deposit of Two Guineas, which sum will be refunded on receipt of a bona-fide Tender not subsequently withdrawn.

Tenders, sealed in the endorsed envelope, to reach the undersigned not later than THURSDAY, 18th February, 1960.

B. V. ENTWISTLE,
Town Clerk.

38 St. Peter's Street,
St. Albans,
Herts.

ALFRETON URBAN DISTRICT COUNCIL.

TENDERS, LEABROOKS LIGHTING.

TENDERS are invited for the INSTALLATION of 118 LIGHTING UNITS, including 113 140-watt Sodium, five 3/80 Fluorescent Lanterns and 118 Concrete Columns.

Forms of Tender, Specifications, and Bills of Quantity may be obtained from the Engineer and Surveyor upon a deposit of £2 2s., which will be refunded on receipt of a bona-fide Tender.

Tenders must be deposited not later than 12 Noon, THURSDAY, 28th January, 1960, addressed to me in a plain sealed envelope and endorsed "Tender for Leabrooks Lighting."

The Council do not bind themselves to accept the lowest or any Tender.

H. TAYLOR,
Clerk of the Council.

Council Offices,
Nottingham Road,
Alfreton,
Derby.

BRADFORD AND MELKSHAM RURAL DISTRICT COUNCIL.

SEMINGTON ROAD SEWERAGE SCHEME,
MELKSHAM.

TENDERS are invited for the FOLLOWING WORKS:

- (1) The Laying of some 510yd. of 6in. dia. and 440yd. of 9in. dia. Stoneware Pipe, and Construction of 13 Precast Concrete Manholes.
- (2) The Laying of House Drainage Connections.
- (3) The Construction of an Ejector Station and Laying of 330yd. of 4in. dia. Spun-iron Rising Main.

Contract documents may be obtained from Mr. J. M. BOSWELL, M.I.Mun.E., A.R.I.C.S., Abbey House, Bradford-on-Avon, on payment of £2 2s., which will be refunded on receipt of a bona-fide Tender by the stipulated date.

Drawings may be inspected at the Council's Offices during normal office hours.

Sealed Tenders, in the envelope provided, are to be delivered to the undersigned not later than Noon on 5th FEBRUARY, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

W. E. WEEKS,
Clerk of the Council.

Abbey House,
Bradford-on-Avon.

CONTRACTS

GOVERNMENT OF BRITISH GUIANA.

TAPAKUMA PROJECT.
NOTICE TO TENDERERS.

The Government of British Guiana intends to invite TENDERS for the CONSTRUCTION of IRRIGATION and DRAINAGE WORKS in an area of about 35,000 acres on the ESSEQUIBO COAST. The Works comprise Earthworks in Embankments, Canals and Drains, the Construction of Regulators and the Construction of a Small Dam and a Pumping Station of 200 cusecs capacity.

Contractors who would be interested in the invitations to Tender should send particulars of their overseas experience on similar works to the Consulting Engineers, SIR WILLIAM HALCROW AND PARTNERS, Alliance House, Caxton Street, London, S.W.1.

COUNTY BOROUGH OF HALIFAX.

TENDERS FOR STORES FOR THE YEAR ENDING 31ST MARCH, 1961.

TENDERS are invited for the SUPPLY of the FOLLOWING MATERIALS:—

- (1) Stone Kerb, Edging and Flags.
- (2) Granite and Limestone Chippings.
- (3) Cement.
- (4) Broken Stone, Sand and Gravel.
- (5) Earthenware Pipes and Gutters.
- (7) Precast Concrete Flags, Kerb and Edging.
- (8) Tared and Bituminous Spraying Compounds.
- (10) Tar and Bituminous Spraying Compounds.
- (13) Castings.
- (14) Bricks.
- (15) Fine Cold Asphalt.
- (16) Ready Mixed Concrete.

Forms of Tender may be obtained from the Borough Engineer, Crossley Street, Halifax.

Tenders must be delivered to the undersigned by FRIDAY, 5th February, 1960.

RICHARD de Z. HALL,
Town Clerk.

Town Hall,
Halifax.

BOROUGH OF WIMBLEDON.

ANNUAL SUPPLY OF MATERIALS.

TENDERS are invited for the SUPPLY of ALL or ANY of the FOLLOWING MATERIALS for the 12 months commencing 1st April, 1960:—

- (1) Salt Glaze Stoneware Pipes and Fittings.
- (2) Concrete Paving Slabs.
- (3) Aggregate, Sands and Grit.
- (4) Cement.
- (5) Lime.
- (6) Cold Bitumen Emulsion.
- (7) Granite Chippings.
- (8) Tarmacadam.
- (9) Fine Bituminous Cold Asphalt.

Forms of Tender and Specification may be obtained not later than JANUARY 28th, 1960, on written application to the BOROUGH ENGINEER, Town Hall, Wimbledon, S.W.19.

BOLLINGTON URBAN DISTRICT COUNCIL.

28 HOMEVILLE TRADITIONAL BUNGALOWS
AT BOLLINGTON CROSS.

TENDERS are invited for the ERECTION of 28 BUNGALOWS, with Roads, Sewers and Water Mains.

Forms of Tender, Bills of Quantities, Drawings and General Conditions of Contract may be obtained from the office of the Engineer and Surveyor, Council Offices, Bollington, Macclesfield, on payment of a deposit of Two Guineas. The deposit will be returned on receipt of a bona-fide Tender.

Tenders, enclosed in the envelope provided, must be returned to the Clerk of the Council not later than 12 Noon on MONDAY, 15th February, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

A. E. F. DEAR,
Clerk of the Council.

Council Offices,
Bollington,
Macclesfield,
6th January, 1960.

METROPOLITAN WATER BOARD.

TENDERS FOR THE SUPPLY OF STORES, ETC.

TENDERS are invited for the SUPPLY of the FOLLOWING STORES and SERVICES for the period of 12 months commencing 1st April, 1960:—
Contract No.

- (1) Cement, Tarmacadam, Concrete Slabs, Earthenware Bases, Firebricks, Fletton, Stock and Engineering Bricks.
- (2) Brushes, Brooms and Handles.
- (3) Cast-and-Spun-Iron Straight Pipes, Cast-Iron Specials.
- (4) Uniform Clothing and Caps, Mechanics' Overalls, Rubber Boots, Shoes, etc.
- (5) Cotton Waste, Cleaning Cloth, Wipers, Hemp, Tarpaulins, etc.
- (6) Motor Tyres, Tubes, Batteries, Oils, etc.
- (7) Mild Steel Bars, Plates, Sheets, etc.
- (8) Black Bolts and Nuts, Screws, Files, Shovels, etc.
- (10) Lead, Pipe, Solder, Sheet, etc.
- (11) Fuel Oil, Kerosene, Motor Spirit.
- (12) Special Lubricating Oils.
- (13) Soaps, Polishes and Cleansers, Oilman's Sundries, Paper Towels and Toilet Rolls, etc.
- (14) Rubber and Canvas Insertion Sheet and Washers, Suction, Delivery, Chemical and Fire Hose, etc.
- (19) Small Iron Castings, Valve, Hydrant and Stopcock Boxes, etc., Non-ferrous Castings.
- (20) Stopcocks, Ferrule Stopcocks, Unions, Disc Fittings, Hydrant Outlets and Caps.
- (21) Sluice Valves, Fire Hydrants and Parts, Extension Spindles, Hydrant Indicator Plates, etc.
- (23) Periodical Inspection, Repair and Maintenance of Weighing Apparatus.
- (24) Electric Lamps and Fluorescent Tubes.
- (25) Steam, Smithy and House Coal, and Coke.
- (26) Removal of Furnace Refuse.
- (27) Photo Prints, etc.

Tenders must be submitted on the official forms, which may be obtained from the Chief Engineer by personal application at the Offices of the Board (Room 171), or upon forwarding an addressed envelope (not smaller than 15in. x 10in.) and enclosing stamps value 1s. to cover postage, etc.

Applicants should refer to the number of the contract for which Tender Forms are required.

Tenders, enclosed in sealed envelopes, addressed to the undersigned, and endorsed in the manner indicated in the Form of Tender, must be delivered at the Offices of the Board (Room 122), not later than 12 Noon on THURSDAY, 4th February, 1960.

The Board do not bind themselves to accept the lowest or any Tender.

S. D. ASKEW,
Clerk of the Board.

Offices of the Board,
New River Head,
Roxbury Avenue,
London, E.C.1.

CONTRACTS

BOROUGH OF ALTRINCHAM.
ANNUAL CONTRACTS.

TENDERS are invited for the SUPPLY of the UNDERMENTIONED MATERIALS for the year ending 31st March, 1961:—

- Fine Cold Asphalt.
- Bituminous and Tared Granite.
- Tar Compound.
- Tar Spraying.
- Granite Chippings.
- Basalt Limestone Chippings.
- Cement.
- Sanitary Pipes (G.S. and Concrete).
- Buss Brooms.
- Gas Mantles.
- Motor Spirit (Commercial).
- Concrete Flags, Edgings and Kerbs.
- Rebripping of Brushes on Road Sweeper.
- Manhole Covers and Frames.
- Gully Grates and Frames.
- Graded Slag for Pitching.
- Concrete Lighting Columns.

Forms of Tender may be obtained on application to the Borough Surveyor, Town Hall, Altrincham.

Tenders, in a plain sealed envelope, endorsed "Tender for Materials," and addressed to the Chairman of the Central Purchasing Committee, must be delivered to the undersigned not later than Noon, FRIDAY, 29th January, 1960.

E. GRAHAM THOMAS,
Town Clerk.

Town Hall,
Altrincham,
January, 1960.

BOROUGH OF STAMFORD.
ANNUAL CONTRACTS.

TENDERS are invited for the SUPPLY of the FOLLOWING MATERIALS and/or EXECUTION OF WORK for the period ending 31st March, 1961:

- (a) Tared Slag and/or Granite; Bituminous Macadam.
- (b) Clean Granite and Slag Chippings.
- (c) Gravel and Sand.
- (d) Fitching Stone.
- (e) Concrete Kerb and Edging.
- (f) Dressed Granite Edged Kerb.
- (g) Concrete Flags.
- (h) Sawn Natural Stone Flags.
- (i) Surface Dressing.
- (j) Petroleum Spirit.

Forms of Tender and Conditions of Contract may be obtained from the Borough Surveyor and Engineer, Town Hall, Stamford.

Tenders, sealed in the envelopes provided, and endorsed "Tender for Item —" but bearing no other mark or name indicating sender, are to be delivered to the undersigned not later than FRIDAY, the 5th February, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

H. BEDFORD,
Town Clerk.

Town Hall,
Stamford.

BOROUGH OF WIDNES.

The CORPORATION invite TENDERS for the SUPPLY of the UNDERMENTIONED MATERIALS required in the Highways Department during the 12 months ending 31st March, 1961:

- (1) Portland Cement.
- (2) Broken Granite and Chippings.
- (3) Tar and Bitumen (Spraying Grades).
- (4) Castings.
- (5) Concrete Kerbs and Flags.
- (6) Tar and Bituminous Macadam.
- (7) Electrical Equipment.
- (8) Electric Lamps.
- (9) Gas Fittings and Mantles.

Forms of Tender, Specification, and envelopes in which the Tenders must be submitted, may be obtained from F. A. J. KNIGHT, A.M.I.C.E., M.I.Mun.E., Borough Engineer and Surveyor, Town Hall, Widnes.

Tenders, in envelopes provided, to be forwarded to reach the undersigned not later than 9 a.m. on THURSDAY, 11th February, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

FRANK HOWARTH,
Town Clerk.

Town Hall,
Widnes,
January, 1960.

CITY OF EXETER.

BELVIDERE ROAD RESERVOIR.

The CITY COUNCIL invite FIXED-PRICE TENDERS for the CONSTRUCTION of a RESERVOIR having a capacity of 3½ million gallons. The Walls are to be of Mass Concrete with Earth Moulding, and the Roof Division Wall, Valve House, etc., of Reinforced Concrete. Subsidiary work includes Access Road, Fencing, Piping, etc.

Plans and General Conditions of Contract may be seen, and Form of Tender, Bill of Quantities and Specification obtained, at the Office of the undersigned on and after Monday, 18th January, 1960, on payment of Two Guineas, which will be refunded on receipt of a bona-fide Tender. Upon further payment of Three Guineas (not returnable), copies of typical Drawings may be obtained.

TENDERS, endorsed "Belvidere Road Reservoir," must be deposited with the undersigned not later than 10 a.m. on MONDAY, 15th February, 1960, in a sealed envelope which shall not bear any name or mark indicating the sender.

Members of the Council are not to be personally canvassed by or on behalf of persons tendering. The Council do not bind themselves to accept the lowest or any Tender.

JOHN BRIERLEY,
City Engineer, Surveyor and
Water Engineer.

Municipal Offices,
7 Southernhay West,
Exeter,
7th January, 1960.

WATFORD CORPORATION WATER DEPARTMENT.

SUPPLY OF SALT FOR WATER SOFTENING PLANT.

TENDERS are invited for the SUPPLY of SALT for Base-exchange Softening Plant Regeneration Purposes, for year ending 31st March, 1961.

The Specification and Form of Tender can be obtained on application to the Borough Water Engineer and Manager, Town Hall, Watford.

Tenders must be delivered to the Town Hall, Watford, not later than 2 p.m. on MONDAY, 1st February, 1960, and must be sealed in the official envelope provided.

The Corporation do not bind themselves to accept the lowest or any Tender.

GORDON H. HALL,
Town Clerk.

Town Hall,
Watford.

CONTRACTS

METROPOLITAN BOROUGH OF CAMBERWELL.

ASPHALT PAVING WORKS.

TENDERS are invited for the FOLLOWING to be laid on Existing Foundations:

- Mastic Asphalt with Rock Non-skid Finish: Old Kent Road—1,550 sq. yd. approx.
- East Dulwich Grove—1,552 sq. yd. approx.
- Two Course Hot Rolled Asphalt (B.S.S.594:1958): Half Moon Lane—2,000 sq. yd. approx.

Contract documents from BOROUGH ENGINEER AND SURVEYOR, Town Hall, Camberwell, S.E.5. Closing date: 15th February, 1960.

BOROUGH OF ENFIELD.

ANNUAL CONTRACTS FOR THE SUPPLY OF MATERIALS, ETC.

The CORPORATION invites TENDERS for the SUPPLY of the FOLLOWING ITEMS for the year ending 31st March, 1961:

- Tarred Macadam (Slag or Granite Aggregates).
- Cold Asphalt, Asphalt Macadam and Bituminous Tack Coat.
- Red Granite Chippings.
- Natural Stone Kerbs.
- Pit Sand.
- Tools, etc.
- Concrete Aggregate and Washed Sand.
- Cement.
- Brooms and Brushes.
- Precast Concrete Flags.
- Paint and Painters' Sundries.
- Paint and Distemper Brushes.
- Bitumen—Surface Spraying.

Applications for Specifications and Forms of Tender should indicate the Specification required as lettered above and should be accompanied by a stamped addressed envelope and addressed to the Borough Engineer, 7 Little Park Gardens, Enfield.

The Tenders must reach the undersigned on or before the 8th FEBRUARY, 1960, and no Tender will be received except in a plain sealed envelope which must not bear any name or mark identifying the sender.

The Corporation does not bind itself to accept the lowest or any Tender.

CYRIL E. C. R. PLATTEN,
Town Clerk.

Public Offices,
Enfield,
1st January, 1960.

BOROUGH OF KEIGHLEY.

LOW BANK LANE HOUSING ESTATE.

TENDERS are invited for the CONSTRUCTION of ROADS AND SEWERS in connection with the ABOVE HOUSING ESTATE of approx. 80 houses.

Drawings and General Conditions of Contract may be seen at the Borough Engineer's Office, College Street, Keighley, during normal office hours.

The Specification and Bill of Quantities, which must be returned fully priced with the Form of Tender, will be forwarded on application.

Sealed Tenders, on the official forms and in the envelope provided for the purpose, endorsed "Roads and Sewers—Low Bank Lane Housing Estate," are to be delivered to the undersigned not later than 10 a.m. on MONDAY, 15th February, 1960.

H. W. SMITH,
Town Clerk.

Town Hall,
Keighley.

BOROUGH OF NEWBURY.

SEWAGE EFFLUENT PUMPING STATION.

TENDERS are invited for the SUPPLY AND INSTALLATION of Three Electrically driven Vertical Spindle Suspended Axial Flow PROPELLER PUMPS, each capable of dealing with 2,014 gallons per minute.

Specification, Drawings and Forms of Tender may be obtained from the Borough Surveyor, Municipal Buildings, Newbury, at whose Office the Conditions of Contract may be inspected.

Tenders, endorsed "Sewage Effluent P.S.," to be received by the undersigned not later than SATURDAY, 6th February, 1960.

The Corporation does not bind itself to accept the lowest or any Tender.

LESLIE SOUTHERN,
Town Clerk.

BOROUGH OF MIDDLETON.

PRIVATE STREET WORKS.

HILL STREET, VINCENT STREET,
BAMFORD AVENUE, SMITHIES AVENUE.

TENDERS are invited for the MAKING-UP of Hill Street, Vincent Street, Bamford Avenue and Smithies Avenue, involving the Construction of 2,100 sq. yd. of Carriageway, 1,400 sq. yd. of Footways, and ancillary works.

Plans may be inspected during normal office hours, and copies of the Conditions of Contract, Specification, Bill of Quantities and Form of Tender may be obtained from the Borough Engineer and Surveyor, Town Hall, Middleton, upon deposit of £2 2s, which will be refunded on receipt of a bona-fide Tender.

Tenders, in plain sealed envelopes endorsed "Private Street Works," must be delivered to the undersigned not later than Noon on SATURDAY, 30th January, 1960.

The Council does not bind itself to accept the lowest or any Tender.

F. JOHNSTON,
Town Clerk.

Town Hall,
Middleton,
Manchester,
6th January, 1960.

SHEERNESS URBAN DISTRICT COUNCIL.

RECONSTRUCTION OF NORTH STREET AND SOUTH STREET.

TENDERS are invited for the RECONSTRUCTION of the ABOVE, comprising approx. 2,900 sq. yd. of CARRIAGEWAYS, 542 lin. yd. of KERBING and approx. 960 super. yd. of PRECAST CONCRETE PAVING, together with Tarred Macadam Verges.

Contract documents can be obtained from K. SCOTT, Esq., M.I.M.E., A.M.I.P.E., Engineer and Surveyor to the Council, Council Offices, Trinity Road, Sheerness, on deposit of the sum of £2 2s, which will be returned upon receipt of a bona-fide Tender not subsequently withdrawn and the return of all documents on request.

Copies of the Drawings can be seen during normal hours at the Surveyor's Office.

Sealed Tenders, in plain envelopes endorsed "North Street/South Street Reconstruction," should be delivered to the undersigned not later than Noon on 30th JANUARY, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

J. GRIFFITHS,
Clerk of the Council.

Council Offices,
Trinity Road,
Sheerness.

CONTRACTS

CAMBRIDGESHIRE COUNTY COUNCIL.

ROADS AND BRIDGES COMMITTEE.

TENDERS FOR ROAD MATERIALS, ETC.

TENDERS are invited for the UNDERMENTIONED, as may be required in the year ending 31st March, 1961:—

- (1) Supply and Lay Coated Granite and Slag.
- (2) Supply and Lay Gravel Asphalt.
- (3) Supply and Lay Plastic White Lines.
- (4) Surface Dressing.
- (5) Fixing only Roadstuds.
- (6) Rebristling Sweeper Brushes.
- (7) Granite and Slag.
- (8) Tarred Slag.
- (9) Fine Cold Asphalt.
- (10) Gravel Asphalt.
- (11) Ready Mixed Concrete.
- (12) Bitumen Emulsion (Cold).
- (13) Cement.
- (14) Concrete Kerbs, Channels and Path Edging.
- (15) Stoneware Pipes.
- (16) Concrete Tubes.
- (17) Reflecting Roadstuds.
- (18) Gully Grates and Frames.
- (19) Scavenging Brooms.
- (20) Best Mingled (or Common) Bricks.
- (21) Weckiller (or Paths).
- (22) Sand, Gravel, etc.
- (23) Hire of Lorries, Compressors, Excavators, etc.
- (24) Hire of Rollers.
- (25) Cutting Roadside Grass Verges.

Particulars and Forms of Tender can be obtained from the County Surveyor, Shire Hall, Cambridge.

The reference number indicating the forms required must be included in all applications.

Tenders, in the envelope provided, endorsed "Tenders—Roads and Bridges Committee," and sealed, are to be delivered to the Clerk of the County Council, Shire Hall, Cambridge, on or before THURSDAY, 28th January, 1960.

CHARLES RHYTHIAN,
Clerk of the County Council.

BOROUGH OF SHREWSBURY.

ANNUAL TENDERS.

TENDERS are invited for the SUPPLY of the FOLLOWING for the year ending 31st March, 1961:—

- | Ref. | Description |
|------|--|
| (1) | Stoneware Pipes and Fittings. |
| (2) | Bricks. |
| (3) | Cement. |
| (4) | Dustbins. |
| (5) | Manhole Covers, Gully Grates, etc. |
| (6) | Cleft Chestnut Pale Fencing and Oak Posts. |
| (7) | Sanitary Ware and Fittings. |
| (8) | Building Sand. |
| (9) | Concrete Aggregates. |
| (10) | Concrete Kerbs and Flags. |
| (11) | Asbestos-Cement Rainwater and Soil Pipes and Fittings. |
| (12) | Concrete Road Gullies. |
| (13) | Hardcore Chippings and Gritting Gravel. |
| (14) | Tarmacadam, Bitumen Macadam and Coated Chippings. |
| (15) | Oils and Paraffin. |
| (16) | Hand Brooms. |

Particulars and Forms of Tender for items required may be obtained from the Borough Surveyor, Guildhall, Shrewsbury, on receipt of a stamped addressed foolscap envelope.

Tenders, in the envelope provided, without name or mark indicating sender, to be received by the undersigned not later than 10 a.m. on MONDAY, the 22nd February, 1960.

S. R. H. LOXTON,
Town Clerk.

Guildhall,
Shrewsbury.

BOROUGH OF WATFORD.

ANNUAL CONTRACT—MAINLAYING, 1960-61.

TENDERS are invited for the EXECUTION of the ABOVE WORKS during the year ending 31st March, 1961.

Conditions of Contract, Specification, Schedules and Form of Tender may be obtained on application to J. R. COLLINS, A.M.I.C.E., A.M.I.W.E., Borough Engineer and Manager, Water Department, Town Hall, Watford, Herts.

The Tenders and completed documents are to be enclosed in the sealed envelope provided and must be delivered to the undersigned not later than 12 Noon on MONDAY, 1st February, 1960.

The Council does not bind itself to accept the lowest or any Tender.

GORDON H. HALL,
Town Clerk.

Town Hall,
Watford,
Herts.

HEBBURN URBAN DISTRICT COUNCIL.

PROPOSED MAISONNETTES (FOUR STOREYS HIGH).

The Council invite TENDERS for the ERECTION of FOUR BLOCKS of MAISONNETTES (Four Storeys High) in the STATION ROAD AREA of Hebburn. The Buildings are of Steel-framed Construction and each Block has a Floor Area of approx. 10,500 sq. ft.

Drawings may be seen at the Office of the Engineer and Surveyor, Council Offices, Hebburn.

Contractors wishing to tender should apply to the Engineer and Surveyor in writing before the 19th January, 1960.

Lifts of Quantities will be forwarded on receipt of £5, returnable on receipt of a bona-fide Tender by 8th FEBRUARY, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

J. R. PASSEY,
Clerk to the Council.

Council Offices,
Argyle Street,
Hebburn, Co. Durham,
11th January, 1960.

ST. ALBANS RURAL DISTRICT COUNCIL.

IMPROVEMENTS AND REPAIRS TO 58 HOUSES—LYLURY LANE, REDBOURN.

The Council propose to invite TENDERS from selected contractors to CARRY OUT IMPROVEMENT WORKS in the ABOVE PRE-WAR COUNCIL HOUSES.

The houses are to be brought up to standard by the Provision of Bathrooms, Hot Water Supply, Indoor Sanitation, Kitchen Improvements, etc., and should be of interest to small builders.

Applications for inclusion in the list should be made to the Engineer and Surveyor, at the address below, not later than FRIDAY, 5th February, 1960.

ERIC N. WHEELER,
Clerk of the Council.

Council Offices,
43 Upper Latimore Road,
St. Albans,
15th January, 1960.

CONTRACTS

HASTINGS CORPORATION.

TENDERS are invited for the FURNISHING and EQUIPMENT of a NEW WELFARE HOME to be established shortly at ST. LEONARDS-ON-SEA.

Tender Forms, giving full details of the items required, can be obtained from the undersigned.

Tenders, under cover and endorsed in accordance with instructions, must be delivered at the Town Hall, Hastings, not later than 12 o'clock Noon on 30th JANUARY, 1960.

The Corporation do not bind themselves to accept the lowest or any Tender and reserve the right to accept any Tender in part only.

N. P. LESTER,
Town Clerk.

Town Hall,
Hastings.

NORTHWICH URBAN DISTRICT COUNCIL.

SUPPLY OF PAINTING MATERIALS, 1960-61.

TENDERS are invited for the SUPPLY and DELIVERY of FLOOR and DULUX PAINTS and WALPAMUR WATER PAINTS and INERTOL PAINTS. Copies of the Specification may be obtained from the Engineer and Surveyor, The Council House, Church Road, Northwich.

Tenders, in plain sealed envelopes endorsed "Supply of Painting Materials," should be delivered to the undersigned not later than Noon on SATURDAY, 13th February, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

H. D. HOCKING,
Clerk of the Council.

The Council House,
Northwich.

WALTON AND WEYBRIDGE URBAN DISTRICT COUNCIL.

TENDERS FOR MATERIALS.

TENDERS are invited for the SUPPLY of the UNDERMENTIONED MATERIALS for the year ending the 31st March, 1961:

- (1) Granite Chippings.
- (2) Tar.
- (3) Tarmacadam (supplying only).
- (4) Tarred Gravel (supplying only).
- (5) Bituminous Gravel (supplying only).
- (6) Scavenging Brooms.
- (7) Concrete Kerbs.
- (8) Shingle.
- (9) Sand and Ballast.
- (10) Concrete Path Edging.
- (11) Cement.
- (12) Supplying and Laying by Barber-Greene, Bituminous and Tarmacadam Base and Carpeting Coats.
- (13) Supplying and Laying by Barber-Greene, Hot Rolled Asphalt Carpeting Coat.

Specifications and Forms of Tender may be obtained from the Engineer and Surveyor, Council Offices, Walton-on-Thames.

Tenders are to be enclosed in plain sealed envelopes, endorsed "Tender for Materials," and delivered to the undersigned not later than 12 Noon on FRIDAY, the 5th February, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

EDWARD G. HUBEARD,
Clerk of the Council.

Council Offices,
Walton-on-Thames,
January, 1960.

TORRINGTON RURAL DISTRICT COUNCIL.

PETROCKSTOW SEWERAGE AND SEWAGE DISPOSAL.

TENDERS are invited from competent contractors having experience of similar work, for the LAYING of 2,149 lin. yd. of 6in. GLAZED STONEWARE SEWERS, together with CONCRETE MANHOLES, the CONSTRUCTION of a SEWAGE DISPOSAL WORKS, consisting of Settlement Tanks, Filter, Humus Tank, Sludge Drying Beds, and all ancillary Works.

Contractors wishing to submit a Tender on a fixed-price basis (i.e., without the inclusion of cost variation clauses for labour and materials), should apply to the Council's Consulting Engineers, MESSRS. HARVEY, MCGILL AND HAYES, of 8 Richmond Road, Exeter, from whom copies of the Specification, Bill of Quantities and Form of Tender may be obtained on and after Monday, 1st February, on payment of deposit of £5 5s, by cheque made payable to Torrington Rural District Council.

The deposit will be refunded to contractors who submit bona-fide Tenders not subsequently withdrawn, accompanied by priced Bill of Quantities, and after the return of all documents and Drawings.

Sealed Tenders, endorsed "Petrockstow Sewerage," but bearing no name or mark identifying the sender, are to be delivered to the undersigned not later than Noon on FRIDAY, 26th February, 1960.

The Council do not bind themselves to accept the lowest or any Tender they may receive.

B. W. LEATT,
Clerk.

Council Chambers,
South Street,
Torrington,
North Devon.

TORRINGTON RURAL DISTRICT COUNCIL.

MERTON SEWERAGE AND SEWAGE DISPOSAL.

TENDERS are invited from competent contractors having experience of similar work, for the LAYING of 2,474 lin. yd. of 6in. GLAZED STONEWARE SEWERS, 230 lin. yd. of 4in. SPUN-IRON RISING MAIN, together with CONCRETE MANHOLES, and the CONSTRUCTION of a PUMPING STATION and a SEWAGE DISPOSAL WORKS, consisting of Settlement Tanks, Filter, Humus Tank, Sludge Drying Beds, and all ancillary Works.

Contractors wishing to submit a Tender on a fixed-price basis (i.e., without the inclusion of cost variation clauses for labour and materials), should apply to the Council's Consulting Engineers, MESSRS. HARVEY, MCGILL AND HAYES, of 8 Richmond Road, Exeter, from whom copies of the Specification, Bill of Quantities and Form of Tender may be obtained on and after Monday, 1st February, on payment of a deposit of £5 5s, by cheque made payable to Torrington Rural District Council.

The deposit will be refunded to contractors who submit bona-fide Tenders not subsequently withdrawn, accompanied by priced Bill of Quantities, and after the return of all documents and Drawings.

Sealed Tenders, endorsed "Merton Sewerage," but bearing no name or mark identifying the sender, are to be delivered to the undersigned not later than Noon on FRIDAY, 26th February, 1960.

The Council do not bind themselves to accept the lowest or any Tender they may receive.

B. W. LEATT,
Clerk.

Council Chambers,
South Street,
Torrington,
North Devon.

CONTRACTS

COUNTY BOROUGH OF BRIGHTON.

PARKS AND GARDENS DEPARTMENT.

TENDERS are invited for the SUPPLY and ERECTION OF THREE RED CEDAR SECTIONAL BUILDINGS.

Drawings and Tender Form are obtainable from the Parks Superintendent, Mountscombe Place, Lewes Road, Brighton, 7, and are to be returned to the Town Clerk, Town Hall, Brighton, 1, in a plain sealed envelope not bearing any name or mark indicating the sender, by Noon on SATURDAY, 6th February, 1960.

W. O. DODD,
Town Clerk.

Town Hall,
Brighton, 1.

COUNTY BOROUGH OF BRIGHTON.

HIGHWAYS ACT, 1959.

CODE OF 1892.

TENDERS are invited for COMPLETING the STREET WORKS at CHORLEY AVENUE, SALTDAN, Length 360 lin.

The Works consist of Macadam Carriageway, Surface Drainage, Kerbing, Flag Pavements and incidental Works. The Bill of Quantities and Contract documents can be obtained, and the General Conditions of Contract and Drawings inspected at the office of D. J. HOWE, M.I.C.E., M.I.Mun.E., Borough Surveyor, Engineer and Planning Officer, 26-30 King's Road, Brighton.

Tenders, with priced Bill of Quantities and other documents, must be returned in the envelope provided, bearing no indication of the sender's identity, not later than Noon on TUESDAY, 2nd February, 1960.

The Council is not bound to accept the lowest or any Tender.

W. O. DODD,
Town Clerk.

Town Hall,
Brighton, 1.

METROPOLITAN BOROUGH OF WANDSWORTH.

LITTER BINS.

TENDERS invited for the SUPPLY and DELIVERY of 2,000 POST-TYPE and 50 FREE-STANDING-TYPE LITTER BINS.

Tender documents, obtainable from the Borough Engineer, must reach me by 10 a.m., 10th FEBRUARY, 1960.

J. NOEL MARTIN,
Town Clerk.

Municipal Buildings,
Wandsworth, S.W.18.

CITY OF LEEDS.

CITY ARCHITECT'S DEPARTMENT.

TENDERS are invited by the Sub-Town Planning and Improvements (City Architect's Department) Committee from Soil Investigation Engineers to CARRY OUT the SOIL INVESTIGATION REQUIREMENTS of the City Architect's Department for a period of 12 months.

Lets and Forms of Tender may be obtained from the undersigned on or after 21st January, 1960, on receipt of a deposit of £1, which is returnable on receipt of the completed Form of Tender. Cheques to be made payable to the order of Leeds Corporation and crossed "and Co."

Sealed Tenders, in the envelope provided, properly endorsed, should be delivered to the Town Clerk, Room 57, Civic Hall, Leeds, 1, not later than 12 Noon on 3rd FEBRUARY, 1960.

The Corporation does not bind itself to accept the lowest or any Tender.

P. B. HASWELL, B.Arch., A.R.I.B.A.,
Acting City Architect.

Priestley House,
Quarry Hill,
Leeds, 9.

BUSHEY URBAN DISTRICT COUNCIL.

ASHFIELD AVENUE ESTATE.

ROADS AND SEWERS—SECTION THREE.

TENDERS are invited for the CONSTRUCTION of 778 super. yd. of 6in. CONCRETE CARRIAGEWAY and 432 super. yd. of TARMACADAM FOOTPATHS, together with SOIL and SURFACE WATER DRAINAGE and incidental Works.

Plans and Conditions of Contract may be inspected, and Form of Tender, Specification and Bills of Quantities obtained from the Engineer and Surveyor, at the address below, on payment of a deposit of £2 2s., refundable on receipt of a bona-fide Tender.

Tenders in plain envelopes endorsed "Roads and Sewers" must be received by me not later than the 5th FEBRUARY, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

C. G. EVERATT,
Clerk of the Council.

Council Offices,
Rudolph Road,
Bushey, Herts.

ANDOVER RURAL DISTRICT COUNCIL.

MAIN DRAINAGE OF CHILBOLTON AND WHERWELL.

A.17/2—CONTRACT ONE.

TO CIVIL ENGINEERING AND PUBLIC WORKS CONTRACTORS.

The Andover Rural District Council invite TENDERS from experienced contractors for the CONSTRUCTION of approx. 2½ miles of small dia. SEWERS and RISING MAINS, TWO SEWAGE PUMPING STATIONS and all ancillary Works.

Specification and Plans may be inspected at the Council Offices and particulars and Specification may be obtained and Plans inspected at the offices of the Council's Consulting Engineers, Messrs. HOWARD HUMPHREYS AND SONS, Victoria Station House, Victoria Street, Westminster, S.W.1, from Wednesday, the 20th January, 1960, until Friday, the 5th February, 1960, between the hours of 10 a.m. and 4 p.m., upon payment of a deposit of Three Guineas by cheque made payable to the Council, which deposit, after the Council has reached a decision, will be returned to each contractor who has submitted a bona-fide Tender which has not subsequently been withdrawn, and returned all documents.

Tenders are to be on the official form and are to be delivered to the undersigned in plain sealed envelopes endorsed "Main Drainage of Chilbolton and Wherwell (A.17/2—Contract One)", but bearing no name or other mark indicating the sender, not later than Noon on WEDNESDAY, the 10th February, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

H. O. WOOD,
Clerk to the Council.

Council Offices,
Junction Road,
Andover,
Hampshire,
January, 1960.

CONTRACTS

COUNTY BOROUGH OF BOURNEMOUTH.

HOUSING AND ESTATES DEPARTMENT.

TENDERS are invited for the SUPPLY and DELIVERY of 300 LAVATORY BASINS and Fittings in Batches of 50 over 12 months.

Further particulars, together with Specification, Form of Tender and Conditions of Contract, obtainable from Housing and Estates Manager, Fairlight Glen, Avenue Road, Bournemouth, returnable by 15th FEBRUARY, 1960.

A. LINDSAY CLEGG,
Town Clerk.

BOROUGH OF HEMEL HEMPSTEAD.

ERECTION OF TWO GREENHOUSES, BOILER HOUSE, CHIMNEY AND HEATING APPARATUS.

TENDERS are invited for the PROVISION and ERECTION OF TWO 100ft. x 30ft. GREENHOUSES, BOILER HOUSE, CHIMNEY, and the INSTALLATION of HOT-WATER HEATING APPARATUS at the COUNCIL'S CENTRAL NURSERY SITE, TWO WATERS ROAD.

Specification, Bills of Quantities and Drawing may be obtained from A. H. TURNER, A.M.I.C.E., Borough Engineer, High Street, Hemel Hempstead, at whose Office the General Conditions of Contract may be inspected during normal office hours.

Tenders, in plain sealed envelopes bearing no indication of the sender, and endorsed "Greenhouses," are to be delivered to me not later than 12 Noon on TUESDAY, the 9th February, 1960.

The Corporation do not bind themselves to accept the lowest, or any, Tender.

C. W. G. T. KIRK,
Town Clerk.

Town Hall,
Hemel Hempstead,
Herts.

BOROUGH OF EPSOM AND EWE.

REINSTATEMENT OF TRENCHES.

The Corporation invite TENDERS from public works contractors for the REINSTATEMENT OF TRENCHES chiefly requiring the services of mason paviors within the Borough.

Copies of the Conditions of Contract, Specification, Schedule of Rates and Form of Tender may be obtained from the office of MR. COLIN COBBETT, A.M.I.C.E., M.I.Mun.E., Borough Engineer and Surveyor, Town Hall, Epsom, during working hours, upon payment of a deposit of £2 2s. Deposits will be returned to contractors submitting a bona-fide Tender not subsequently withdrawn.

Tenders must be delivered to me at the address mentioned below not later than Noon on FRIDAY, the 29th January, and Tenders will be received and considered unless it is enclosed in a plain sealed envelope endorsed "Tender for Reinstatement of Trenches." This envelope must not bear any mark or name indicating the sender.

The Corporation do not bind themselves to accept the lowest or any Tender.

EDWARD MOORE,
Town Clerk.

Town Hall,
The Parade,
Epsom,
Surrey.

HODDESDON URBAN DISTRICT COUNCIL.

LAY-BY, THE DRIVE, FORRES ESTATE, HODDESDON.

TENDERS are invited for the CONSTRUCTION of a LAY-BY, with Paved Area in Front of the Four Shops at THE DRIVE, Hoddesdon. The Contract will comprise the provision of materials and Labour to carry out the Works.

Form of Tender, Specification and Bills of Quantities are obtainable from the Council's Engineer and Surveyor, "Woodlands," High Street, Hoddesdon, where the General Conditions of Contract and Drawings may be inspected during normal office hours.

Tenders, in plain sealed envelopes, must be received by me before 12 Noon on FRIDAY, 5th February, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

LEONARD G. JOHNS,
Clerk of the Council.

Council Offices,
High Street,
Hoddesdon,
Herts.

ALCESTER RURAL DISTRICT COUNCIL.

ROADWORKS—STUDLEY.

FIXED-PRICE TENDERS are invited for the CONSTRUCTION of approx. 2,500yd. TARMACADAM ROADS, SEWERS and WATER MAINS at Studley, under the Council's Architects, MESSRS. F. B. ANDREWS AND SON, 95 Colmore Row, Birmingham.

Applications for Drawings and Bills of Quantities are to be made to the Surveyor, Council Offices, Alcester, not later than 29th JANUARY, 1960, with payment of a deposit of Two Guineas, which will be refunded on receipt of a bona-fide Tender (cheques to be made payable to the Alcester Rural District Council).

Tenders, in plain envelopes endorsed "Tender—Roadworks, Studley," must reach the undersigned not later than 12 Noon on the 17th FEBRUARY, 1960.

J. F. SMITH,
Clerk of the Council.

8th January, 1960.

HARLOW DEVELOPMENT CORPORATION.

CONSTRUCTION OF ROAD E.6 FROM JUST NORTH OF THE NEWLY CONSTRUCTED BURNT MILL RAILWAY BRIDGE TO THE SAWBRIDGEWORTH-HERTFORD ROAD, A.414.

TENDERS are invited from contractors who have the necessary experience and resources for the CONSTRUCTION of approx. 470yd. of NEW ROAD with a 24ft. CARRIAGEWAY, including the Formation of Embankment, a 68ft. Span Bridge over the Stort Navigation and a 64ft. Span Bridge over the River Stort, Drainage and other ancillary Works.

Applications for Tender documents should be made to the Chief Engineer, Harlow Development Corporation, "Terlings," Harlow, Essex, accompanied by a deposit of £10, which will be returned if a bona-fide Tender is received and not subsequently withdrawn.

Sealed Tenders must be delivered to the undersigned not later than the First Post on the 29th day of FEBRUARY, 1960.

B. HYDE HARVEY,
General Manager.

Harlow Development Corporation,
"Terlings,"
Harlow,
Essex.

CONTRACTS

HERTFORDSHIRE COUNTY COUNCIL.

CULVERT AT BRICKENDON LANE, HERTFORD.

TENDERS are invited for WORKS comprising the Construction of a Box Culvert of Precast Units and in-situ Concrete, 460ft. long and 5ft. span, 265 cu. yd. of Excavation, including Excavation in the Existing Carriageway, Backfilling with 690 cu. yd. of Hardcore and 70 cu. yd. of Lean-mix Concrete to raise the Road Level, Provision of Gullies and Connections; 150 tons of Bituminous Gravel Macadam, and ancillary works.

Tender documents may be obtained from, and the Drawings inspected by appointment during normal working hours at the Office of the County Surveyor, County Hall, Hertford, on or after 18th January, 1960.

Tenders are to be returned to the CLERK OF THE COUNTY COUNCIL, not later than 10 a.m., WEDNESDAY, 10th February, 1960.

The County Council are not bound to accept the lowest or any Tender.

County Hall,
Hertford.

COUNTY BOROUGH OF MIDDLESBROUGH.

FALLISTER PARK—SECOND DEVELOPMENT—GROUP 26—31 DWELLINGS.

TENDERS are invited for the ERECTION OF the ABOVE GROUP OF 31 DWELLINGS.

Bills of Quantities from Borough Engineer, Municipal Buildings, Middlesbrough, Deposit Two Guineas. Tenders to be received by TOWN CLERK on or before 8th FEBRUARY, 1960.

BOROUGH OF STOCKTON-ON-TEES.

JUNCTION ROAD RELIEF SEWER.

TENDERS are invited for the CONSTRUCTION OF approx. 1,100yd. of SEWER from 24in. to 12in. dia. at depths varying from 6ft. to 15ft. One Brick and 13 Precast Concrete Manholes, together with the usual ancillary works.

Conditions of Contract, Specification and Bill of Quantities may be obtained from, and Drawings inspected at, the Office of the Borough Engineer, Victoria Buildings, High Street, Stockton-on-Tees, on payment of £2 2s. Each sum will be returned after the receipt of a bona-fide Tender.

Tenders must be enclosed in the special envelope issued with the Contract documents and delivered to the undersigned not later than Noon on THURSDAY, 4th February, 1960.

JOHN B. HAWORTH,
Town Clerk.

Barclays Bank Chambers,
Stockton-on-Tees.

RAMSBOTTOM URBAN DISTRICT COUNCIL.

SUPPLY OF MATERIALS—1960/61.

TENDERS are invited for the SUPPLY of MATERIALS required for the year ending 31st March, 1961.

Schedule and further particulars may be obtained from the Engineer and Surveyor, Council Offices, Ramsbottom.

Tenders, endorsed "Materials," should be delivered in plain sealed envelopes to the undersigned not later than 9.30 a.m. on THURSDAY, 11th February, 1960.

The Council does not bind itself to accept the lowest or any Tender.

F. BELLIS,
Clerk of the Council.

Council Offices,
Ramsbottom.

BRIGG URBAN DISTRICT COUNCIL.

BRIGG SEWERAGE SCHEME.

CONTRACT NO. 1.

TENDERS are invited for the CONSTRUCTION of a SEWAGE TREATMENT WORKS, a STORMWATER PUMPING STATION and approx. 700yd. of 12in. to 30in. dia. CONCRETE PIPE SEWERS at BRIGG, LINCOLNSHIRE.

Contractors wishing to Tender should apply for the documents and Drawings to the Council's Consulting Engineers, JOHN H. HAISTE AND PARTNERS, Belmont House, 20 Wood Lane, Headingley, Leeds, 6, enclosing a deposit cheque, value Three Guineas, made payable to the Urban District Council of Brigg, each deposit to be refunded upon receipt of a bona-fide Tender and the return of all the documents and Drawings.

Tenders, with the Bills of Quantities priced in ink, are to be submitted to the undersigned not later than 12 Noon on FRIDAY, 18th March, 1960.

The Council do not bind themselves to accept the lowest or any Tender they may receive.

JOSEPH J. MAGRATH,
Clerk of the Council.

Town Hall,
Brigg,
Lincolnshire.

BASINGSTOKE RURAL DISTRICT COUNCIL.

MAIN DRAINAGE OF BASING.

B5 CONTRACT THREE.

TO CIVIL ENGINEERING AND PUBLIC WORKS CONTRACTORS.

The above Council is prepared to receive TENDERS from experienced contractors for the CONSTRUCTION of approximately 10,000yd. of small dia. SEWERS and RISING MAIN, the CONSTRUCTION of a SEWAGE PUMPING STATION, EXTENSIONS to an existing SEWAGE DISPOSAL WORKS, and other ancillary Works.

Particulars and Specifications may be obtained and Plans may be inspected at the offices of the Council's Consulting Engineers, MESSRS. HOWARD HUMPHREYS AND SONS, Victoria Station House, Victoria Street, Westminster, S.W.1, on or after Monday, 25th January, 1960, until Friday, 19th February, 1960, between the hours of 10 a.m. and 4 p.m., upon the payment of a deposit of Five Guineas by cheque, made payable to the Basingstoke Rural District Council, which deposit, after the Council has reached a decision, will be returned to each contractor who has submitted a bona-fide Tender which has not subsequently been withdrawn and has returned all documents and Drawings.

Tenders are to be on the official form and are to be delivered to the undersigned in sealed envelopes endorsed "Tenders for Main Drainage of Basing (B5 Contract Three)".

Drawings may be inspected at the above office during normal working hours.

Sealed Tenders must be delivered to the undersigned not later than the First Post on the 29th day of FEBRUARY, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

A. S. REW,
Clerk to the Council.

"Eastlands,"
London Road,
Basingstoke,
Hants.

CONTRACTS

BOROUGH OF HARROW.
RECONSTRUCTION OF APPROACHES TO
RAILWAY BRIDGE.

TENDERS are invited for the RECONSTRUCTION of the APPROACHES to the RAILWAY BRIDGE in WEST END LANE, PINNER. The Work includes approx. 540 lin. yd. Kerbing, 245 lin. yd. Reinforced Concrete Retaining Wall, 2,150 sq. yd. Carriageway, 1,450 sq. yd. Footway and all appurtenant Works. Drawings and Conditions of Contract may be inspected at the office of, and a copy of the Form of Tender, Specification and Bills of Quantities obtained on application to, the Borough Engineer, at the Council Offices, 48 Urkhurst Road, Stanmore, Middlesex, on payment of Two Pounds by crossed cheque made payable to the Harrow Borough Council, returnable where a bona-fide Tender reaches me within the prescribed time. Tenders, on prescribed forms, enclosed in a plain envelope bearing no indication of the sender and endorsed "Tender—Reconstruction of Approaches to West End Lane Railway Bridge," to be delivered to my office not later than 10 a.m., WEDNESDAY, 3rd February, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

DAVID FRITCHARD,
Town Clerk.

Council Offices,
Harrow Weald Lodge,
Harrow, Middx.

CITY OF BIRMINGHAM.
TO BUILDING CONTRACTORS.NEW SWIMMING BATHS, STATION ROAD,
STECHFORD.

The Baths Committee invites contractors willing to TENDER for the ABOVE BATHS to apply for inclusion on a list from which firms to be invited to Tender will be selected.

Tenders will be invited on a "Firm-price" basis in the immediate future and the successful contractor will be expected to be able to start work directly he receives notice of the acceptance of his Tender.

The Contract will comprise the Erection of Swimming Baths, with a Main Pool 110ft. x 42ft., and a 30ft. x 10ft. Pool, Dressing Rooms for Men and Women and Separate Scholars' Changing Rooms, Public Gallery for about 450 Persons, Cafe and usual ancillary Rooms, Heating, Ventilating Plant, Chlorination Plant and other Mechanical Services. The Construction will be of Reinforced Concrete and Structural Steel, with Brickwork and Curtain Wall Cladding. External Pavings and Site Works are included.

Applications should be received at the office of the City Architect, Civic Centre, Birmingham, 1, not later than 12 Noon on MONDAY, the 1st February, 1960.

J. F. GREGG,
Town Clerk.

The Council House,
Birmingham, 1.

CITY OF OXFORD.
DEMOLITION OF OXPENS A.R.P. SHELTERS.

TENDERS, on a LUMP-SUM FIXED-PRICE BASIS, are invited for the DEMOLITION of approx. 400 lin. yd. of TRENCH SHELTER in OXPENS ROAD, Oxford. The Shelters are Constructed of Concrete, partially below ground, and the Work includes the Removal and Spreading of approx. 3,000 cu. yd. of Soil Covering.

Tender documents may be obtained from the City Engineer, Town Hall, Oxford, and the Tender Form must be returned to the Town Clerk, P.O. Box 7, Town Hall, Oxford, to be received not later than 12 Noon on 18th FEBRUARY, 1960.

HARRY PLOWMAN,
Town Clerk.

Town Hall,
Oxford.

8th January, 1960.

YIEWSLEY AND WEST DRAYTON
URBAN DISTRICT COUNCIL.HORTON ROAD IMPROVEMENT—STAGE III.
HIGH STREET & GLOUCESTER VILLAGES.

TENDERS are invited for the ABOVE WORKS, which comprise Kerbing, Concrete Haunch, Footways, Drainage Works and Surfacing of approx. 3,200 sq. yd. of Carriageway with Gravel Asphalt.

The Conditions of Contract and Drawings may be seen at the office of the Engineer and Surveyor, from whom the Specification, Bill of Quantities and Form of Tender may be obtained on payment of a deposit of £2 2s., which will be refunded on receipt on a bona-fide Tender and the return of all documents.

Tenders, in plain sealed envelopes endorsed "Tender for Horton Road Improvement," must be delivered to the undersigned not later than Noon on MONDAY, 15th February, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

ARTHUR BOOTE,
Clerk of the Council.

Drayton Hall,
West Drayton,
9th January, 1960.

HUNTINGDON RURAL DISTRICT
COUNCIL.

TENDERS FOR BUNGALOWS.

TENDERS, on a FIXED-PRICE BASIS, are invited for the ERECTION OF SIX BUNGALOWS at GREAT GIDDING.

Bills of Quantities and Forms of Tender may be obtained from the Council's Surveyor, MR. J. S. SIMMS, at the undermentioned address, on deposit of £2 2s., which will be returned on receipt of a bona-fide Tender. Tenders should be returned in the envelopes provided so as to reach me not later than Noon on WEDNESDAY, 24th of February, 1960.

The Council does not bind itself to accept the lowest or any Tender, and final acceptance will be subject to the approval of the Ministry of Housing and Local Government.

W. MIDWOOD,
Clerk of the Council.

Montagu House,
Huntingdon,
13th January, 1960.

ST. ALBANS RURAL DISTRICT COUNCIL.CONSTRUCTION OF SEWER, REDBOURN LANE,
HARPENDEN.

APPLICATIONS are invited from experienced contractors wishing to submit TENDERS for the CONSTRUCTION of approx. 250 lin. yd. of 6in. dia. SEWER in REDBOURN LANE, Harpenden.

From applications received, which must include the names of two local authorities to which reference may be made, the Council will select contractors who will be invited to Tender. Applications should be made to the Engineer and Surveyor, MR. H. WILKINSON, F.R.I.C.S., M.I.Mun.E., at the Council Offices within two weeks from the publication of this advertisement.

ERIC N. WHEELER,
Clerk of the Council.

Council Offices,
43 Upper Latimore Road,
St. Albans.

CONTRACTS

HOLLAND COUNTY COUNCIL,
LINCOLNSHIRE.ERECTION OF SECONDARY SCHOOL AT
OLD LEAKE, NEAR BOSTON, LINCOLNSHIRE.

Building contractors desirous of submitting a TENDER for the ERECTION of a TWO-FORM ENTRY, plus ONE CLASSROOM INSTALLMENT of a THREE-FORM ENTRY SCHOOL, should submit their names, together with a cheque for £2 2s. (which will be refunded on receipt of a bona-fide Tender), to the County Architect, as quickly as possible.

It is anticipated that Tender documents will be available at the end of January, and Tenders must be submitted to the CLERK OF THE COUNTY COUNCIL, County Hall, Boston, Lincs., by 10 a.m. on 22nd FEBRUARY, 1960.

COUNTY COUNCIL OF DURHAM.

TENDERS invited for SUPPLY of WOODWORK and METALWORK MACHINES and EQUIPMENT to SPENNYMOOR WEST MODERN, BIRTLEY SOUTH MODERN and HOOKEGATE GRAMMAR SCHOOLS. Forms of Tender, returnable by 5th FEBRUARY, 1960, and details from undersigned.

G. H. METCALFE,
Director of Education.

Shire Hall,
Durham,
11th January, 1960.

BOROUGH OF EPSOM AND EWE.KINGSTON ROAD (A.240)—IMPROVEMENT
SCHEME (PART II).MAVIS AVENUE—STONELEIGH PARK ROAD,
EWE.

The CORPORATION invite TENDERS from civil engineering contractors having considerable experience in the execution of works of this nature, for the WIDENING and RECONSTRUCTION of Kingston Road, Ewell, from Mavis Avenue to Stoneleigh Park Road, Ewell.

The works comprise the Construction of a Dual Carriageway approx. 630yd. in length, with Footpath and ancillary works. Construction is to be Lean Rolled Concrete surfaced with approx. 10,000 sq. yd. of Hot Rolled Asphalt.

Conditions of Contract can be inspected at, and copies of the Plans, Specification, Bills of Quantities and Form of Tender obtained from, the Office of MR. COLIN COBBETT, A.M.I.C.E., M.I.Mun.E., Borough Engineer and Surveyor, Town Hall, Epsom, during working hours, upon payment of a deposit of £5 5s. Deposits will be returned to contractors submitting a bona-fide Tender not subsequently withdrawn.

Tenders must be delivered to me at the address mentioned below not later than 12 Noon on FRIDAY, the 12th February, 1960, and no Tender will be received and considered unless it is enclosed in a plain sealed envelope endorsed "Tender for Kingston Road—Improvement (A.240)."

This envelope must not bear any mark or name indicating the sender.

The Corporation does not bind themselves to accept the lowest or any Tender.

EDWARD MOORE,
Town Clerk.

Town Hall,
The Parade,
Epsom, Surrey,
January, 1960.

WIRRAL URBAN DISTRICT COUNCIL.PRIVATE STREET WORKS, KINGSWAY (PART OF),
GAYTON.

FIXED-PRICE TENDERS are invited for the MAKING-UP of a KINGSWAY, Gayton.

The Specification, Bills of Quantities and Form of Tender may be obtained from the Engineer and Surveyor, Council Offices, Hesketh, at which office the Plans and Conditions of Contract may be inspected during normal office hours.

Tenders, in plain sealed envelopes endorsed "Private Street Works—Kingsway," must be delivered to the undersigned before 10 a.m. on 8th FEBRUARY, 1960.

The Council does not bind itself to accept the lowest or any Tender.

W. F. ROBERTS,
Clerk of the Council.

Council Offices,
Hesketh,
Wirral.

BURGESS HILL URBAN DISTRICT
COUNCIL.APPLICATIONS FOR INCLUSION IN APPROVED
LIST OF CONTRACTORS.

APPLICATIONS are invited from contractors who wish to be placed on a list of approved contractors who will be invited to TENDER for the COUNCIL'S ROAD, SEWER and FOOTPATH CONSTRUCTION and RECONSTRUCTION CONTRACTS during the next two years. It is unlikely that the value of any one scheme will exceed £10,000.

Contractors applying for inclusion should be prepared to produce evidence that they are capable of carrying out such work and may be required to furnish financial references.

Applications to be sent to the undersigned by not later than SATURDAY, the 30th January, 1960.

STANLEY JEFFES,
Clerk of the Council.

Council Offices,
32 Church Road,
Burgess Hill.

CHAPEL-EN-LE-FRITH RURAL DISTRICT
COUNCIL.

CASTLETON AND HOPE SEWERAGE.

FIXED-PRICE TENDERS are invited from competent and responsible contractors for the CONSTRUCTION of a SEWAGE DISPOSAL WORKS EXTENSION, comprising Tanks, Filters, Pump House, etc., together with approx. 570yd. of 9in. and 12in. Sewers, and all incidentals thereto, in the Parishes of Castleton and Hope.

Plans may be seen, and General Conditions of Contract, Specification, Bill of Quantities and Form of Tender obtained from the Council's Engineers, MESSRS. BRADY AND PARTINGTON, Market Street, Chapel-en-le-Frith, on payment of a deposit of £5, which will be refunded on receipt of a bona-fide Tender.

Sealed Tenders prepared and endorsed as directed in the General Conditions, are to be delivered to my Office on or before TUESDAY, 9th February, 1960.

The Council does not bind itself to accept the lowest or any Tender and will only consider Tenders from contractors who have previously and satisfactorily executed work of a similar nature and who have inspected the Plans and the Site of the proposed works.

Acceptance of any Tender is also subject to the approval of the Minister of Housing and Local Government.

By Order,
G. E. J. ASHWORTH,
Clerk to the Council.

Council Offices,
Hazel Road,
Chapel-en-le-Frith.

CONTRACTS

COUNTY BOROUGH OF BOLTON.

TENDERS invited for SUPPLY of UNDERMENTIONED MATERIALS and ARTICLES required during year ending 31st March, 1961:

- (1) Broken Local Gritstone Aggregate, Quarry Sand, River Sand and Pit Sand
- (2) Gravel Aggregate for Concrete.
- (3) Tarmacadam and Bituminous Macadam.
- (4) Bituminous and Asphaltic Skim-coating Materials.
- (5) H.draulic Pressed Precast Concrete Flags, Kerbs and Channels.
- (6) Cast-iron Gully Gratings and Frames, Gullies and Manhole Covers.
- (7) Salt Glazed Ware Pipes, Gullies and Fittings.
- (8) Cement.
- (9) Bricks.
- (10) Filled Bitumen.
- (11) Hired Hauase.
- (12) Ready Mixed Concrete.
- (13) Chippings (Granite Limestone and other Hard-stone).
- (14) Provision and Application of Binder for Tar-spraying.
- (15) Heating and Planing of Carriageways.

Conditions of Contract, Specifications and Forms of Tender obtainable from BOROUGH ENGINEER AND SURVEYOR, Town Hall, Bolton, to whom Tenders, sealed in envelope provided, not bearing any name or mark indicating sender, are to be delivered by 10 a.m., 1st FEBRUARY, 1960.

BOROUGH OF FARNWORTH.

HOT ROLLED ASPHALT SURFACING.

PLODDER LANE AND BRADFORD ROAD.

TENDERS are invited for the SUPPLY and LAYING BY MACHINE of approx. 7,800 sq. yd. of HOT ROLLED ASPHALT CARPETING to B.S. 594: 1950. Conditions of Contract, Specification, Bill of Quantities and Form of Tender may be obtained from the Borough Engineer and Surveyor, Town Hall, Farnworth, Lancs. Tenders, in a plain sealed envelope, endorsed "Hot Rolled Asphalt," should be returned to me not later than 30th JANUARY, 1960.

The Corporation do not bind themselves to accept the lowest or any Tender.

THOMAS HITCHEN,
Town Clerk.

Town Hall,
Farnworth, Lancs.

BOROUGH OF HORNSEY.ANNUAL SUPPLY OF SODIUM DISCHARGE
LAMPS.

TENDERS are invited for SUPPLY of the ABOVE for a period ending 31st March, 1960.

Documents on application to Borough Engineer, Town Hall, N.8. Last date for receipt of Tenders: MONDAY, 8th February, 1960.

W. B. MURGATROYD,
Town Clerk.

BOROUGH OF NEWCASTLE-UNDER-

LYME.

PRIVATE STREET WORKS ACT, 1892.

TENDERS are invited for the MAKING-UP of the FOLLOWING STREETS:

- (1) Oaklands Avenue (Part), Porthill, from its junction with High Street.
- The work comprising approx. 380 sq. yd. of Carriageway Excavation, Foundation, 2,400 sq. yd. of Two-coated Macadam, the Re-laying of 412 lin. yd. of Kerb, and other ancillary works.

- (2) Oaklands Avenue (Part), Porthill—Boulton Street to 134yd. south-east.
- The work comprising approx. 400 sq. yd. of Carriageway Excavation, Foundation, 1,600 sq. yd. of Two-coated Macadam, the Re-laying of 240 lin. yd. of Kerb, and ancillary works.

- (3) Keeling Street (Part), Wolstanton.
- The work comprising approx. 800 sq. yd. of Carriageway Excavation, Foundation, 1,400 sq. yd. of Two-coated Macadam, the Re-laying of 100 lin. yd. of Kerb, and Provision of 80 lin. yd. of Kerb, and other ancillary works.

Plans may be inspected and Tender documents obtained at the Office of the Borough Engineer and Surveyor, Lancaster Buildings, High Street, Newcastle, Staffs.

Tender Forms, in duplicate, and Bills of Quantities must be returned to me not later than 12 Noon on MONDAY, 8th February, 1960, in a plain sealed envelope endorsed "Tender—Private Street Works."

C. J. MORTON,
Town Clerk.

ENNERDALE RURAL DISTRICT
COUNCIL.LAYING WATER MAINS AT CLEATOR MOOR
AND EGREMONT.

TENDERS are invited from contractors with experience in laying water mains, for the UNDERMENTIONED WORKS:

- (a) Egremont—Laying of approx. 2,000yd. of 6in. Spun-iron Water Main, with Mechanical Joints, complete with specials.
- (b) Cleator Moor—Laying of approx. 400yd. of 3in. Spun-iron Water Main, with Mechanical Joints, complete with specials.

Specification, Bills of Quantities and Forms of Tender can be obtained from the Engineer, Council Chambers, Cleator.

Tenders to be returned in plain sealed envelopes, endorsed "Water Main Laying, Egremont," or "Water Main Laying, Cleator Moor," as appropriate, on or before 4th FEBRUARY, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

JOHN BRADLEY,
Clerk of the Council.

The Council Chambers,
Cleator, Cumb.

HIGHAM FERRERS AND RUSHDEN
WATER BOARD.

CONTRACT FOR PIPELAYING.

TENDERS are invited for the LAYING of about Two Miles of 9in. dia. and 12in. dia. SPUN-IRON PIPES, together with certain ancillary works, at RUSHDEN, Northamptonshire, and the Construction of a Short Access Road to the Site of a Proposed Water Tower.

Tender documents may be obtained at my Office or at the Office of the Engineers, MESSRS. BINNIE, DEACON AND GOURLEY, Artillery House, Artillery Row, Westminster, S.W.1, on payment of a deposit of Five Pounds, which will be returned on receipt of a bona-fide Tender.

Tenders must be delivered at my Office, in sealed envelopes endorsed "Tender for Piping," before Noon on MONDAY, 8th February, 1960.

A. G. CROWDY,
Clerk to the Board.

Council Buildings,
Rushden.

CONTRACTS

COUNTY BOROUGH OF HUDDERSFIELD.

SEWAGE WORKS EXTENSIONS.

CONTRACT NO. 21.

WORKSHOPS, OFFICES AND OTHER BUILDINGS.

TENDERS are invited, on a FIXED-PRICE BASIS, from experienced civil engineering and building contractors for the CONSTRUCTION of the FOLLOWING WORKS at STATION ROAD, Huddersfield:

- (1) Two-storey Stores and Workshops Building, approx. 140ft. long, 30ft. wide and 33ft. high, with Steel Frame and Brick and Concrete Construction.
- (2) Two-storey Canteen and Welfare Building, approx. 82ft. long, 19ft. wide and 30ft. high, with Reinforced Precast Concrete Frame and Brick and Concrete Construction.
- (3) Renovation and Conversion of an Existing Two-storey Building, approx. 80ft. long, 55ft. wide and 30ft. high.
- (4) Renovation and Conversion of an Existing Two-storey Building, approx. 80ft. long, 55ft. wide and 30ft. high.
- (4) Miscellaneous Works, Roadworks, Drainage.

Contractors applying for the tendering documents must submit satisfactory evidence that they are capable of carrying out work to the necessary standard and value and furnish financial references.

Copies of the tendering documents, which will be available at the end of January, 1960, may be obtained from A. E. PERCY, M.I.C.E., Borough Engineer and Surveyor, High Street Buildings, Huddersfield, on payment of deposit of £10, which will be returned on receipt of a stamped addressed envelope, not subsequently withdrawn, and all other documents supplied.

Drawings may be inspected at the Office of the Sewage Works Extensions Engineer, Station Road, Bradley, Huddersfield. A set of Drawings will be issued on payment of a further deposit of £10, which will be refunded on return of all Drawings.

Full details regarding the date for submission of Tenders to the undersigned will be sent with the tendering documents.

The Council do not bind themselves to accept the lowest or any Tender.

HARRY BANN,
Town Clerk.

Town Hall,
Huddersfield,
January, 1960.

BOROUGH OF LEYTON.

MAIN DRAINAGE—WEST LEYTON DRAINAGE AREA NO. 4—SECTION 1.

An extensive programme of MAIN DRAINAGE WORK is to be carried out in the Borough of Leyton and application is invited from civil engineering contractors for inclusion in a selected list to be invited to TENDER for the ABOVE SCHEME.

Tender documents will be available during February, 1960, and it is anticipated that work will commence in March or April, 1960.

The work comprises some 2,100 lin. yd. of Super-imposed Sewer varying from a 9in. dia. Surface Water Sewer over a 27in. dia. Foul Water Sewer to an 8ft. x 2ft. 9in. Foul Water Sewer over an 8ft. x 4ft. Surface Water Sewer, together with 654 lin. yd. of 5ft. x 4ft. 3in. Foul Water Sewer, 197 lin. yd. of 8ft. x 4ft. Surface Water Sewer, and the requisite Manholes. Excavation will be in open trench throughout, depths varying from 7ft. to 25ft.

Further details of the proposed scheme can be obtained on application to the Borough Engineer and Surveyor, Town Hall, Leyton, E.10, and names and addresses of persons wishing to be considered for inclusion in the selected list are to be received by the undersigned not later than 2nd FEBRUARY, 1960.

D. J. OSBORNE,
Town Clerk.

Town Hall,
Leyton, E.10.

STAINES URBAN DISTRICT COUNCIL.

PROPOSED IMPROVEMENTS—HORTON ROAD, STANWELL MOOR.

FIXED-PRICE TENDERS are invited for IMPROVEMENTS to the ABOVE ROAD, comprising the following approx. quantities, plus ancillary works:

- Kerb and Channel, 530 lin. yd.; 9in. Dry Lean Concrete, 690 sq. yd.; 1½in. Bituminous Gravel Macadam, 70 tons; ¾in. Bituminous Gravel Macadam, 1,330 sq. yd.

Specification, Bill of Quantities, Form of Tender and Drawings may be obtained from the Engineer and Surveyor, 240 London Road, Staines, upon payment of £2 2s. deposit, which will be returned upon receipt of a bona-fide Tender not subsequently withdrawn, together with the return of all documents.

Sealed Tenders, in the endorsed envelope provided, and free from any mark indicating the name of the tender, shall be returned to the undersigned not later than 5 p.m. on 4th FEBRUARY, 1960.

The Council does not bind itself to accept the lowest or any Tender.

F. ENTWISTLE,
Clerk of the Council.

Elmsleigh,
73 High Street,
Staines, Middx.

WALSINGHAM RURAL DISTRICT COUNCIL.

REGIONAL WATER SCHEME.

CONTRACT NO. 18.

TENDERS are invited, on a FIXED-PRICE BASIS, for the WORK REQUIRED in the Trenching for, Laying and Jointing of Eight Miles of Cast-iron Mains, 7in., 5in., 4in. and 3in. dia., together with other works incidental thereto, in the Parishes of WINKHAM, WARHAM, HOLKHAM, and in the Urban District of WELLS-NEXT-SEA.

Copies of the Specification and Drawings may be seen by intending contractors at the Council Offices, Baron's Hall, Fakenham, Norfolk, or at the Office of the Engineer, MESSRS. A. P. L. COTTERELL AND SON, at 54 Victoria Street, Westminster, London, S.W.1, on or after 25th EULA of Quantities (in separate sealed packets), to the undersigned, and endorsed "Walsingham Regional Water Scheme—Contract No. 18," not later than 12 Noon on MONDAY, 15th February, 1960.

Contractors will be required to provide securities for the performance of the Contract.

The Council do not undertake to accept the lowest or any Tender.

A. E. KERRISON,
Clerk of the Council.

Council Offices,
Baron's Hall,
Fakenham, Norfolk,
12th January, 1960.

CONTRACTS

BOROUGH OF LOWESTOFT.

The COUNCIL invites TENDERS for the SUPPLY of all or any, of the FOLLOWING STORES to the Borough Engineer and Surveyor's Department of the Lowestoft Corporation during the period from 1st April, 1960, to the 31st March, 1961:

- (1) Ironmongery, Tools, etc.
- (2) Precast Concrete Kerbs and Flags (Including hydraulically pressed).
- (3) Tarmacadam and Tar Paving.
- (4) Bitumen Macadam.
- (5) Fine Cold Asphalt.
- (6) Bitumen Road Emulsion.
- (7) Brooms, Brushes, Soaps and Cleaning Materials.
- (8) Solid Fuels (Coal and Coke).
- (9) Concrete Aggregate and Building Sands.
- (10) Petrol, Diesel Oil and Paraffin.
- (11) Motor Lubricants, Oils and Greases.

General Conditions, Form of Tender and an envelope for the return of the Tenders will be forwarded on written application to the Borough Engineer, Town Hall, Lowestoft.

Tenders, on forms provided, must be delivered, in the envelope provided, to the undersigned not later than 12 Noon on THURSDAY, 11th February, 1960. The envelope must be sealed and should bear no mark or writing by which the tenderer can be identified. The Council do not bind themselves to accept the lowest or any Tender.

F. B. NUNNEY,
Town Clerk.

Town Hall,
Lowestoft,
4th January, 1960.

HORNBURCH URBAN DISTRICT COUNCIL.

RE-LAYING OF PRECAST CONCRETE PAVING.

TENDERS are invited for the ABOVE-MENTIONED WORK, comprising the Taking-up and Re-laying of 2,600 sq. yd. of Precast Concrete Paving Stones, together with approx. 500 sq. yd. of Fine Cold Asphalt, to adjacent Verges, and ancillary works.

The Specification and Bills of Quantities may be obtained from, and the Conditions of Contract and Drawings inspected at, the Office of the Engineer and Surveyor, Council Offices, Billet Lane, Hornchurch, upon payment of a deposit of Two Guineas, which will be refunded in the case of a bona-fide Tender on acceptance of a Tender by the Council.

The documents must be returned to the undersigned not later than Noon on FRIDAY, 29th January, 1960, sealed in the envelope provided, which shall bear no indication of the person(s) tendering.

P. L. COX,
Clerk of the Council.

Hornchurch, Essex,
Council Offices.

CHADDERTON URBAN DISTRICT COUNCIL.

ANNUAL CONTRACTS.

TENDERS are invited for the SUPPLY of the FOLLOWING MATERIALS during the 12 Months ending 31st March, 1961:

- (1) Cement.
- (2) Broken Stone Aggregate.
- (3) Granite Chippings.
- (4) Electric Lamps.
- (5) Tared and Bituminous Macadam and Cold Asphalt.
- (6) Overall Jackets and Trousers.
- (7) Bituminous Emulsion.
- (8) Reinforced Concrete Street Lighting Columns.
- (9) Precast Concrete Flags and Kerbs.

Specifications and Forms of Tender may be obtained upon application to the Engineer and Surveyor, Town Hall, Chadderton, upon receipt of a stamped addressed foolscap envelope.

Tenders, enclosed in a plain sealed envelope endorsed "Annual Contracts," must be delivered to the undersigned by the 1st FEBRUARY, 1960.

L. STOTT,
Clerk of the Council.

Town Hall,
Chadderton.

RURAL DISTRICT COUNCIL OF GOOLE.

TENDERS are invited for the SUPPLY and DELIVERY of the FOLLOWING MATERIALS for the year ending 31st March, 1961:

- Tar.
Bitumen.
Tarmacadam.
Bituminous Sealing Grit.
Chippings for Surface Dressing.
Sand and Gravel.
Concrete Kerbs, Flags and Edging.
Surface Dressing by Pressure Tanker.
Road Rollers.
Mechanical Haulage.

All to W.R.C.C. Specification for the year ending 31st March, 1961.

Form of Tender may be had on application to the Surveyor, 149 Loutherry Road, Goole.

Tenders, endorsed "Highway Tender," to be delivered to the undersigned not later than Noon on the 6th FEBRUARY, 1960.

R. BULLOCK,
Clerk to the Council.

149 Boothferry Road,
Goole.

LYN CONWY WATER BOARD.

REGIONAL WATER SCHEME.

RAW WATER, TRUNK AND BRANCH MAINS.

REFERENCE NO. C19/2—CONTRACT NO. 2.

TO CIVIL ENGINEERING CONTRACTORS EXPERIENCED IN MAINLAYING.

TENDERS are invited for the LAYING of about Seven Miles of 12in. and 10½ Miles of 9in. ASBESTOS-CEMENT PIPES, mainly with Steel Tubes, across valleys, complete with all Fittings and the Construction of Chambers, and other small ancillary works.

Contract documents may be obtained from the Consulting Engineers, MESSRS. HOWARD HUMPHREYS AND SONS, Victoria Station House, Victoria St., Westminster, S.W.1 (where the Drawings may be seen, or ordered from), on and after 25th January, 1960, between 10 a.m. and 4 p.m., until 5th February, 1960, upon payment of Five Guineas, made payable to the Lyn Conwy Water Board. This deposit will be returned on submission of a bona-fide Tender not subsequently withdrawn.

Tenders are to be made on the official form and must be delivered to the undersigned, in plain sealed envelopes endorsed "Tender for Mains," not later than Noon on MONDAY, 29th February, 1960.

The Council do not undertake to accept the lowest or any Tender.

W. BROOKES PARRY,
Clerk of the Lyn Conwy Water Board.

Council Offices,
34 Water Street,
Rhyll, North Wales.

CONTRACTS

COUNTY BOROUGH OF GRIMSBY.

EDUCATION COMMITTEE.

GRANTHAM AVENUE PRIMARY JUNIOR SCHOOL, OFF EDGE AVENUE, SCARTHO, GRIMSBY.

The Education Committee of the Town Council invites FIXED-PRICE TENDERS for the FOLLOWING WORKS required in the Erection and Completion of the Grantham Avenue Two-Form Entry Primary Junior Mixed School:

- (a) General Building Contract, including Foundations, Boilerhouse and Superstructure Works to the Main Two-storey and Subsidiary Single-storey Blocks, together with Drainage, Roads, Paths, Fencing, and other ancillary works.
- (b) Heating and Hot-water Installations with Oil-fired Boiler Plant.
- (c) Electrical Installations.

Bills of Quantities, Specifications and Forms of Tender may be obtained, and Drawings and General Conditions of Contract perused, at the Office of MR. J. V. OLDFIELD, L.R.I.B.A., Borough Engineer and Architect, Municipal Offices, Town Hall Square, Grimsby, during ordinary office hours on deposit of £5 for each Contract, which will be refunded on receipt of bona-fide Tenders or on return of all documents within one week of receipt.

The acceptance of a Tender will be subject to the approval of the appropriate Ministry Department, and the Corporation does not bind itself to accept the lowest or any Tender, nor will it be liable for any expenses incurred by contractors in tendering.

Tenders must be submitted in plain envelopes, bearing no mark or indication of the sender, sealed and endorsed "Grantham Avenue Primary Junior School" Contract (a), (b), or (c), and must be delivered to the Office of the undersigned not later than 10 a.m. on SATURDAY, 13th February, 1960.

R. E. RICHARDSON,
Director of Education.

Education Office,
Eleanor Street,
Grimsby,
January, 1960.

COUNTY BOROUGH OF GRIMSBY.

EDUCATION COMMITTEE.

HAVELOCK SECONDARY SCHOOL.

The Education Committee of the Town Council invites FIXED-PRICE TENDERS for the FOLLOWING WORKS required in the Erection and Completion of a New Science Block at the Havelock Secondary School, HOLYOAKE ROAD, off Carr Lane:

- (a) General Building Contract, including Foundations, Boilerhouse and Superstructure Works to a Single-storey Classroom Block, together with Drainage, Paths, and other ancillary works.
- (b) Heating and Hot-water Installations with Oil-fired Boiler Plant.
- (c) Electrical Installations.

Bills of Quantities, Specifications and Forms of Tender may be obtained, and Drawings and General Conditions of Contract perused, at the Office of MR. J. V. OLDFIELD, L.R.I.B.A., Borough Engineer and Architect, Municipal Offices, Town Hall Square, Grimsby, during ordinary office hours on deposit of £5 for each Contract, which will be refunded on receipt of bona-fide Tenders or on return of all documents within one week of receipt.

The acceptance of a Tender will be subject to the approval of the appropriate Ministry Department, and the Corporation does not bind itself to accept the lowest or any Tender, nor will it be liable for any expenses incurred by contractors in tendering.

Tenders must be submitted in plain envelopes, bearing no mark or indication of the sender, sealed and endorsed "New Science Block—Havelock Secondary School," Contract (a), (b), or (c), and must be delivered to the Office of the undersigned not later than 10 a.m. on SATURDAY, 13th February, 1960.

R. E. RICHARDSON,
Director of Education.

Education Office,
Eleanor Street,
Grimsby,
January, 1960.

COUNTY BOROUGH OF SOUTHPORT.

ASPHALT SURFACING OF ROADWAYS.

TENDERS are invited for the PROVISION and MECHANICAL LAYING OF HOT ROLLED ASPHALT on the FOLLOWING ROADS:

- (1) Nevill Street—approx. 1,573 sq. yd. of Hot Rolled Asphalt in Two Courses to a total thickness of 2½in.
- (2) Liverpool Road—approx. 12,360 sq. yd. of Hot Rolled Asphalt Carpet of 1in. finished thickness.
- (3) Scarisbrick New Road—approx. 5,400 sq. yd. of Hot Rolled Asphalt Carpet of 1in. finished thickness.
- (4) Briar Road and Sandbrook Road—approx. 2,500 sq. yd. of Hot Rolled Asphalt Carpet of 1in. finished thickness.

Bills of Quantities, Specification and Forms of Tender may be obtained from the Borough Engineer on payment of £2 2s. deposit (cheques to be made payable to Southport Corporation), and Plans may be inspected at the Borough Engineer's Office, Town Hall, Southport.

Tenders must be received by First Post on THURSDAY, 4th February, 1960.

R. EDGAR PERRINS,
Town Clerk.

Town Hall,
Southport.

BOROUGH OF HASLINGDEN.

SUPPLY OF MATERIALS—ANNUAL CONTRACTS.

TENDERS are invited for the SUPPLY of the UNDERMENTIONED MATERIALS for the year ending 31st March, 1961.

- (1) Castings.
- (2) Concrete Kerbs, Flags and Edging.
- (3) Hot Bitumen, Tar and Bitumen Compound, Bitumen Emulsions.
- (4) Tared and Bituminous Macadam, Fine Cold Asphalt, Premixed Waterbound Macadam.
- (5) Limestones and Granite Roadstone and Chippings.
- (6) Wared Stoneware Pipes and Fittings.
- (7) Bricks.
- (8) Scavenging Brushes.
- (9) Road Sweeper Brushes (Lewin Mechanical Castings).
- (10) Concrete Aggregates.
- (11) Concrete—Bulk Deliveries.
- (12) Coke.

Specifications, General Conditions, and Form of Tender may be obtained on application to the Borough Engineer, Municipal Offices, Haslingden, Rossendale, Lancashire, or will be forwarded on receipt by the Borough Engineer of a stamped addressed foolscap envelope.

Sealed Tenders, suitably endorsed, must be delivered to the undersigned as to be received by him not later than SATURDAY, 20th February, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

L. M. BURTON,
Town Clerk.

Municipal Offices,
Haslingden,
Rossendale, Lancs.

CONTRACTS

BUCKS. COUNTY COUNCIL.

ANNUAL TENDERS, 1960/61.

TENDERS are invited for ROADWORKS, the SUPPLY OF ROAD MATERIALS, and the HIRE of PLANT for the year ending 31st March, 1961, as follows:

- WORKS:
- (H 1) Road and Bridge Maintenance and Strengthening Works on Priced Schedule Basis.
 - (H 2) Asphalt Surfacing and Repairs.
 - (H 3) Supplying and Laying Plastic White Lines.
 - (H 4) Laying only Bituminous Macadam.
 - (H 4a) Supplying and Laying Dense Tarmacadam and Dense Bitumen Macadam.
 - (H24) Painting Road Traffic Signs, etc.
 - (H25) Fixing Reflecting Road Studs.
 - (H26) Surface Dressing.
- SUPPLY OF ROAD MATERIALS:
- (H 5) Washed Sand and Ballast for Construction Works.
 - (H 6) Portland Cement.
 - (H 7) Granite Setts.
 - (H 8) Precast Concrete Kerb, Flags and Edging.
 - (H 9) Iron Castings (Gully Grates, Weirs and Manhole Covers).
 - (H10) Stoneware and Clayware Field Drainpipes.
 - (H10a) Concrete and Concrete Porous Pipes.
 - (H14) Standard Road Traffic Signs, Posts and Fittings.
 - (H17) Road Surfacing Materials.
 - (H18) Broken Stone, Pitching and Premixed Water-bound Macadam.
 - (H19) Granite, Limestone and Slag Chippings for Surface Dressings.
 - (H20) Sand and Shingle for Gritting and Surface Dressings.
 - (H21) Tar, Bitumen, Tar-bitumen Compounds or Cold Bitumen Emulsions for Surface Dressings.
- HIRE OF PLANT:
- (H22) Steam, Petrol or Diesel Rollers.
 - (H23) Motor Lorries and Tractors for Daywork and General Haulage.

Forms of Tender, with Specifications and Conditions, may be obtained from the County Surveyor, County Offices, Aylesbury, on receipt of a stamped, addressed foolscap envelope.

Tenders must reach the undersigned not later than FRIDAY, the 5th February, 1960, in the envelope provided, which must not bear any name or mark indicating the sender, but must be endorsed "Tender for —, H—".

The Council do not bind themselves to accept the lowest or any Tender and reserve the right to accept any Tender in part only.

County Hall,
Aylesbury,
January, 1960.

R. E. MILLARD,
Clerk of the County Council.

THE HASTINGS CORPORATION.

TENDERS are invited for the SUPPLY of the FOLLOWING MATERIALS and EXECUTION OF WORKS during the year commencing 1st April, 1960:

- Schedule
- (a) Paint (ex local merchants only).
 - (b) Paint Brushes and Distemper Brushes.
 - (c) Brooms and Brushes.
 - (d) Dustbins.
 - (e) Disinfectants.
 - (f) Canvas.
 - (g) Soaps.
 - (h) Towelling and Dusters.
 - (i) Toilet Paper.
 - (j) Tarspraying.
 - (k) Coal (Education Committee).
 - (l) Coal (General).
 - (m) Coke.
 - (n) Hired Haulage.

Forms of Tender may be obtained from the Borough Engineer, 37 Wellington Square, Hastings, by indicating the Schedule required.

Tenders must be returned to the undersigned not later than 10 a.m. on MONDAY, 8th February, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

Town Hall,
Hastings.

N. P. LESTER,
Town Clerk.

BOROUGH OF SLOUGH.

ANNUAL TENDERS.

TENDERS are invited for the SUPPLY and DELIVERY of the UNDERMENTIONED MATERIALS during the year commencing 1st April, 1960, and ending on 31st March, 1961:

- Ref. No.
- (1) Tarmacadam.
 - (2) Fine Coat Asphalt and Tack Coat.
 - (3) Fallast, Hogan, Sand and Shingle.
 - (4) Stoneware and Concrete Pipes and Concrete Gully Pots.
 - (5) Precast Concrete Kerbs, Flags and Edging.
 - (6) Cast-iron Manhole Covers and Frames, and Gully Grates and Frames.
 - (7) Brooms.

Forms of Tender and all particulars may be obtained on application to Borough Engineer, Town Hall, Slough.

Tenders, in plain envelopes endorsed "Annual Tender, Ref. No. —", must be delivered to the TOWN CLERK, Town Hall, Slough, not later than Noon on MONDAY, 1st February, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

BOROUGH OF ALTRINCHAM.

ANNUAL CONTRACTS.

TENDERS are invited for the SUPPLY of the UNDERMENTIONED MATERIALS for the year ending 31st March, 1961:

- Plumbers' Goods.
- Grates, Ironmongery, etc.
- Forms of Tender may be obtained on application to the Borough Surveyor, Town Hall, Altrincham.
- Tenders, in a plain sealed envelope endorsed "Tender for Materials" and addressed to the Town Clerk, Town Hall, Altrincham, must be delivered not later than Noon, FRIDAY, 5th February, 1960.

Town Hall,
Altrincham.

January, 1960.

E. GRAHAM THOMAS,
Town Clerk.

SOMERSET EDUCATION COMMITTEE.

SCHOOL MEALS SERVICE.

TENDERS are invited for the SUPPLY of FISH, GROCERIES and PROVISIONS, MILK, DRIED MILK, SOAP, and SCOURING POWDER and LIQUID DISINFECTANTS to Central Kitchens and School Canteens in all parts of the County. Particulars and Forms of Tenders, returnable by the 12th FEBRUARY, 1960, obtainable (S.A.E.) from the undersigned.

County Education Office,
Trull Road,
Taunton.

W. J. DEACON,
Chief Education Officer.

CONTRACTS

MERIONETH COUNTY COUNCIL.

HIGHWAYS AND BRIDGES DEPARTMENT.

TENDERS FOR PLANT.

TENDERS are invited for the UNDERMENTIONED PLANT for delivery to the above Department during the First Week of April, 1960:

- One Tractor or similar type of Excavator.
 - Two Dumpers.
 - Four Concrete Mixers up to 7/5 type.
 - Two 5/6-ton Short-wheelbase Tipper Lorries, Diesel Engines.
 - Two Lorries (3-ton Morris Commercial 1948 and 7-ton petrol Bedford Tipper) are offered in part-exchange for the new lorries. These lorries may be inspected by appointment with the County Surveyor at these Offices.
- Tenders, accompanied by makers' specification and other details, enclosed in a plain sealed envelope endorsed "Tender for Plant" should reach the County CLERK, County Offices, Dolgellau, not later than WEDNESDAY, the 10th February, 1960.

BOROUGH OF FINCHLEY.

REFUSE DISPOSAL.

TRANSPORT TO TIP.

TENDERS are invited for the SUPPLY of all LABOUR, VEHICLES, PLANT and TOOLS for the DAILY LOADING and TRANSPORTING of REFUSE from a Loading Station to be provided by the Corporation at their Sewage Disposal Works, Summers Lane, Finchley, N.12, to a Controlled Tip near Smallford, Herts.—a distance of approx. 15 miles. The annual quantity of such refuse is estimated at about 20,000 tons.

Conditions of Contract and Specification of Works, and other information may be obtained from P. M. SPENCER, M.I.C.E., Borough Engineer and Surveyor, 294-6 Regents Park Road, Finchley, N.3.

A deposit of £2 will be required, which will be returned on receipt of a bona-fide Tender and the return of all documents supplied.

No Tender will be considered unless it is received in a plain sealed envelope marked "Refuse Disposal—Transport to Tip," not bearing any name or mark indicating the sender.

Tenders must reach the undersigned not later than 12 Noon on MONDAY, the 1st February, 1960.

The Council does not bind itself to accept the lowest or any Tender.

Municipal Offices,
Finchley, N.3.

R. M. FRANKLIN,
Town Clerk.

BOROUGH OF WATFORD.

ANNUAL CONTRACTS.

The CORPORATION invites TENDERS for the SUPPLY and DELIVERY of the UNDERMENTIONED MATERIALS and SERVICES for the year ending 31st March, 1961:

- Gravel, Sand and Ballast.
- Tar for Surface Dressing.
- Tarmacadam and Cold Asphalt.
- Concrete Paving Slabs and Kerbs; Granite Chippings.
- Protective Clothing.
- Sweeping Machine Brush Refilling.
- Manhole Covers and Frames; Gully Gratings and Frames.
- Window Cleaning.
- Electric Lamps and Tubes.
- Toilet Rolls.
- Petrol and Diesel Oil.
- Paraffin and T.V.O.
- Fuel Oil.
- Dustbins.
- Trench Reinforcements.
- Salvaged Paper.

Form of Tender, General Conditions, Specifications and Schedules obtainable from the Borough Engineer, Town Hall, Watford, on lending materials or services for which documents are required.

No Tender will be considered unless upon the official form which must be sent to the undersigned, in the envelope provided for the purpose, by 2 p.m. on 10th FEBRUARY, 1960.

Town Hall,
Watford, Herts.

GORDON H. HALL,
Town Clerk.

BROADSTAIRS AND ST. PETER'S

URBAN DISTRICT COUNCIL.

ANNUAL TENDERS, 1960/61.

TENDERS are invited for the SUPPLY of the UNDERMENTIONED MATERIALS for the 12 months commencing the 1st April, 1960:

- (1) Concrete Kerbing and Edging, Paving Flags and Gully Pots.
- (2) Emulsified Bitumen.
- (3) Concrete Aggregate and Pit Sand.
- (4) Cement.
- (5) Cold Asphalt.
- (6) Slag Aggregate—Bitumen Macadam.
- (7) Ditto—Tarmacadam.
- (8) Ditto—Tarmacadam.
- (9) Surface Dressing.
- (10) Electrical Supplies.
- (11) General Stores and Protective Clothing.

Forms of Tender, Specifications and Conditions for the supply of any of the above-mentioned items may be obtained from the Engineer and Surveyor, Pierremont Hall, Broadstairs.

Tenders, in plain sealed envelopes endorsed "Annual Tenders—Item No. —" should be sent to the undersigned, by whom they should be received not later than 12 Noon on WEDNESDAY, 3rd February, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

Pierremont Hall,
Broadstairs.

H. C. NORRIS,
Clerk of the Council.

URBAN DISTRICT COUNCIL OF COLNE

VALLEY.

WIDENING OF BANK GATE, SLAITHWAITE.

TENDERS are invited for the WIDENING OF BANK GATE, Slaithwaite, for an approx. length of 200yd., including the Construction of Masonry Retaining Walls.

Tender documents may be obtained on payment of a deposit of One Guinea, returnable on receipt of a bona-fide Tender, not subsequently withdrawn, from the Office of the Council's Engineer and Surveyor, Municipal Offices, Carr Lane, Slaithwaite, near Huddersfield. Drawings may be inspected during normal office hours.

Tenders, enclosed in a plain sealed envelope, are to be returned to the undersigned not later than First Post on THURSDAY, 28th January, 1960.

Town Hall,
Slaithwaite.

Near Huddersfield.

11th January, 1960.

J. W. LOMAS,
Clerk of the Council.

CONTRACTS

KENT COUNTY COUNCIL.

TRUNK ROAD A.2—EARTHWORKS, SWANSCOMBE.

TENDERS are invited by not later than Noon, 5th FEBRUARY, 1960, for approx. 120,000 cu. yd. of EXCAVATION in CLAY and GRAVEL and for the DEPOSIT and COMPACTION of the MATERIAL, both at the Verge of the TRUNK ROAD, the Haul being approx. 500yd.

The Work will be in accordance with Ministry of Transport Specification and I.C.E. Conditions of Contract. Forms of Tender obtainable from the County Surveyor, County Hall, Maidstone.

GERALD BISHOP,
Clerk of the County Council.

COUNTY BOROUGH OF WARRINGTON.

ANNUAL TENDERS.

The Highways, Sewerage and Planning Committee of the Council of the County Borough of Warrington are prepared to receive EXCLUSIVE-PRICE TENDERS for the COMMITTEE'S REQUIREMENTS during the 12 months ending 31st March, 1961. Materials:—

- (1) Concrete Flags.
- (2) Concrete Kerbs.
- (3) Stone Kerbs.
- (4) Granite Chippings.
- (5) Bricks—Engineering, Common and Fire Bricks.
- (6) Stoneware Pipes, Bends, Junctions, Gullies, etc.
- (7) Portland Cement.
- (8) High Alumina Cement.
- (9) Sand (Plastering and Concreting).
- (10) Gravel.
- (11) Broken Stone.
- (12) Pre-mixed Water-bound Limestone Macadam.
- (13) Tared Macadam.
- (14) Bituminous Macadam.
- (15) Hot-rolled Asphalt (Supply and Laying).
- (16) Hot Mixed Bituminous Macadam (Supply and Laying).
- (17) Surface Dressing.
- (18) Fine Cold Asphalt.
- (19) Tar, Bituminous Compounds and Cold Emulsions.
- (20) Cast-iron Manhole Covers and Frames and Gully Gratings and Frames.
- (21) Brushes—Highways and Street Cleansing Departments (including Rotary Brushes).
- (22) Paint Brushes.
- (23) Concrete Fence Posts.
- (24) Concrete Clothes Posts.
- (25) Concrete Lighting Columns.
- (26) Steel Lighting Columns.
- (27) Lead and Solder.
- (28) Glass.

Contractors are requested to state the number of the form required, as set out above, when applying.

Specifications, Forms of Tender and all further information may be obtained from the office of the Borough Engineer and Surveyor, Town Hall, Warrington, on and after Monday, the 25th January, 1960, at which place Tenders, wax-sealed in the printed envelope supplied, must be delivered before 12 o'clock Noon on MONDAY, the 8th February, 1960.

Any contractor whose Tender for goods is accepted will be required to observe the recognised customs and conditions as to the rates of wages and working hours as laid down in the standing orders of the Council.

The Committee reserve the right to divide the Contracts in any way they may think fit, and do not bind themselves to accept the lowest or any Tender.

J. Y. HUGHES, M.I.C.E.,
Borough Engineer and Surveyor.

Town Hall,
Warrington.

13th January, 1960.

BOROUGH OF MALDEN AND COOMBE.

HOUSING SITE NO. 77—BALGOWAN CLOSE—ROAD AND PAVING WORKS.

Contractors desirous of TENDERING for the ABOVE-MENTIONED WORKS are invited to submit their names to JOHN APSE, A.M.I.C.E., Borough Engineer and Surveyor, and Tender documents will be submitted to them in the course of the day.

The works comprise of the Construction of New Concrete Service Road (500 sq. yd.) and Provision of New A.S.P. Footpaths.

HAROLD E. BARRETT,
Town Clerk.

Municipal Offices,
New Malden,
Surrey.

BOROUGH OF WORKINGTON.

ANNUAL TENDERS, 1960-61.

TENDERS are invited for the SUPPLY and DELIVERY of the FOLLOWING MATERIALS for the period of 12 months ending 31st March, 1961:—

- (1) Dry Limestone and Bituminous Limestone Macadam.
- (2) Dry Granite and Bituminous Granite Macadam.
- (3) Fine Cold Asphalt.
- (4) Premixed Waterbound Macadam.
- (5) Sand.
- (6) Cement.
- (7) Manhole Covers and Gully Gratings and Frames.
- (8) Concrete Flags, Kerbs and Channels.
- (9) Haulage.
- (10) Overall.
- (11) Paint.

Specifications and Forms of Tender can be obtained from the Borough Engineer and Surveyor, "Stoneleigh," Park End Road, Workington.

Tenders, in plain sealed envelopes, endorsed "Annual Tenders, 1960-61," must be delivered to the undersigned not later than Noon on THURSDAY, 11th February, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

G. MCKAY PORTER,
Town Clerk.

Town Hall,
Workington.

January, 1960.

NEW HAVEN URBAN DISTRICT COUNCIL.

CONSTRUCTION OF BUS SHELTERS.

The Council invite TENDERS from experienced contractors for the ERECTION of NINE BRICK BUS SHELTERS on Various Sites in the District.

The Specification, Plans and Form of Tender may be obtained from A. E. MOTYER, A.M.I.C.E., M.I.Man.E., Engineer and Surveyor, Council Offices, Fort Road, Newhaven.

Tenders should be submitted in plain sealed envelopes endorsed "Bus Shelters" to me to reach the undersigned by Noon on TUESDAY, 9th February, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

N. C. SIMSON,
Clerk of the Council.

Council Offices,
Fort Road,
Newhaven.

13th January, 1960.

CONTRACTS

COUNTY BOROUGH OF WOLVERHAMPTON.

TENDERS FOR SUPPLY OF MATERIALS.

TENDERS are invited for the SUPPLY of the UNDERMENTIONED MATERIALS for a period of 12 months from the 1st April, 1960—

- (1) Iron Castings for Gully Gratings, Manhole Covers, etc.
- (2) Tarrad Macadam.
- (3) Bitumen Macadam.
- (4) Asphalt—B.S.594 (Reinstatement Purposes only).
- (5) Cold Asphalt.
- (6) Tar and Bituminous Compounds for Surface Dressing.
- (7) Concrete Flags.
- (8) Concrete Kerbs.
- (9) Granite Kerbs.
- (10) Gravel.
- (11) Granite or Basalt Chippings.
- (12) Stoneware Pipes.
- (13) Bricks (Hard Common, Brindled and Engineering Bricks).
- (14) Portland Cement.
- (15) Sand.
- (16) Clef Chestnut Fencing.

Applications for Forms of Tender and Specifications must be made to the Borough Engineer, Town Hall, Wolverhampton.

Intending contractors must state for which class of materials, and quote above appropriate Serial Number for which they require Tender Forms.

Tenders to be submitted in a plain sealed envelope, bearing the words "Tenders for —" but no name or mark indicating the sender, addressed to the undersigned, and to be received not later than MONDAY, 8th February, 1960.

R. J. MEDDINGS,
Town Clerk.

Town Hall,
Wolverhampton,
8th January, 1960.

BOROUGH OF RICHMOND (SURREY).

ANNUAL MAINTENANCE CONTRACTS.

TENDERS are invited for the FOLLOWING CONTRACTS for the period 1st April, 1960, to 31st March, 1961:

- (a) Maintenance of Highways—Carriageways.
- (b) Maintenance of Highways—Footways.
- (c) Maintenance of Highways—Heating and Planing.
- (d) Laying Plastic White Lines.

Contract documents can be obtained from the Borough Engineer and Surveyor, Hotham House, Heron Court, Richmond, Surrey, on application, stating which is required.

Tenders should be returned, in the envelope provided, by First Post on FRIDAY, 12th February, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

CLIFFORD HEYWORTH,
Town Clerk.

Town Hall,
Richmond, Surrey

BOROUGH OF JARROW.

ANNUAL CONTRACTS, 1960-61.

The CORPORATION invites TENDERS for the FOLLOWING for a period of 12 months ending 31st March, 1961:—

- | Tender No. | Description |
|------------|--|
| (1) | Sands, Gravel and Crushed Stone. |
| (2) | Dry Slag. |
| (3) | Precast Concrete Kerbs, Flags and Edgings. |
| (4) | Tarmacadam, Bitumen Macadam, Cold Asphalt. |
| (5) | Surface Dressing. |
| (6) | Mechanical Haulage. |
| (7) | Cast-Iron Goods. |
| (8) | Salt Glazed Ware Pipes. |
| (9) | Coal and Coke. |
| (10) | Dustbins. |
| (11) | Window Cleaning. |

Forms of Tender and full particulars (state name and number of Tender required) may be obtained on application to the Borough Engineer, Town Hall, Jarrow.

Tenders, sealed in the envelopes provided, and properly endorsed, must reach the Town Clerk, Town Hall, Jarrow, on or before TUESDAY, 16th February, 1960.

The Corporation does not bind itself to accept the lowest or any Tender.

M. L. ROTHFIELD,
Town Clerk.

BOROUGH OF FARNWORTH.

ANNUAL TENDERS.

TENDERS are invited for the SUPPLY of the FOLLOWING MATERIALS for the year ending 31st March, 1961:—

- (1) Screened Granite Chippings.
- (2) Precast Concrete Kerbs.
- (3) Precast Concrete Edgings.
- (4) Precast Concrete Flags.
- (5) Broken Stone.
- (6) Sand.
- (7) Tarrad Limestone.
- (8) Bituminous Macadam.
- (9) Cement.
- (10) Paraffin Oil.
- (11) Cast-Iron Gully Grids and Frames.
- (12) Cast-Iron Manhole Covers and Frames.

Specification, Conditions and Form of Tender may be obtained on application to the Borough Engineer and Surveyor, Town Hall, Farnworth, Lancs.

Tenders, in a plain sealed envelope, endorsed "Tender for —", must be delivered to the undersigned not later than 12 Noon, SATURDAY, 30th January, 1960.

THOMAS HITCHEN,
Town Clerk.

Town Hall,
Farnworth, Lancs.

FAREHAM URBAN DISTRICT COUNCIL.

ANNUAL CONTRACTS, 1960-61.

TENDERS invited for the FOLLOWING ITEMS for the year ending 31st March, 1961:—

- (1) Cement, Lime, Whiting, Sirapite.
- (2) Graded Concrete Aggregates, Sea Ballast and Sand.
- (3) Supplying and Laying Hot Asphalt.
- (4) Hire of Lorries.
- (5) Disinfectants and Soap.
- (6) Lubricating Oils and Greases.
- (7) Petrol and Fuel Oil.
- (8) Winding Public Clocks.

Tenders to be based on Condition of Contract and Specifications obtainable, together with Form of Tender, from Engineer and Surveyor, Westbury Manor, Fareham. Tenders to be returned to me by 10 a.m. 17th FEBRUARY, 1960. The Council do not bind themselves to accept the lowest or any Tender.

B. W. RANDS,
Clerk to the Council.

"Merfion,"
5 Grove Road,
Fareham, Hants.

CONTRACTS

BOROUGH OF UXBRIDGE.

CONTRACT NO. 430.

REPLACEMENT OF MAIN TOWN SOIL SEWER. UXBRIDGE.

The Borough Council invites contractors with experience of similar work, and who are willing to TENDER for the ABOVE CONTRACT, to submit their names and give full details of such experience to HAROLD E. G. STRIPP, A.M.I.C.E., Borough Surveyor, 263 High Street, Uxbridge, by the First Post on MONDAY, the 8th February, 1960.

The Works will comprise the Laying of approx. 1,800 yd. of 18in. dia. to 36in. dia. Specially Strengthened Reinforced Concrete Pipes, and 250 yd. of 14in. dia. to 24in. dia. Cast-Iron Pipes, together with the Construction of Manholes, an Inverted Siphon Hatchbox and Penstock Chambers and ancillary Works.

From the names submitted a selected list of contractors will be chosen and subsequently provided with the Tender documents.

E. RONALD WEST,
Town Clerk.

Council Offices,
263, High Street,
Uxbridge,
Middx.

CITY OF ROCHESTER.

WARREN WOOD REDEVELOPMENT—STAGE IV.

26 THREE-BEDROOM HOUSES AND 12 FLATS.

TENDERS are invited for the ERECTION of the ABOVE DWELLINGS. Conditions of Contract, Bills of Materials and Form of Tender will be forwarded on payment of £3 3s. at the office of J. A. PELL, Esq., A.M.I.C.E., A.M.I.Mun.E., The City Surveyor, 66 Maidstone Road, Rochester.

The deposit will be returned on receipt of bona-fide Tenders or on the notification of inability to Tender, together with the return of the documents.

Alternative Tenders are required, one based on the Fluctuations Clause of the R.I.B.A. Form of Contract and another based on a Fixed-Price Tender.

Tenders must be sealed and delivered to the Town Clerk, Guildhall, Rochester, not later than 12 Noon on MONDAY, 7th March, 1960.

The Corporation do not bind themselves to accept the lowest or any Tender.

PHILIP H. BARTLETT,
Town Clerk.

Guildhall,
Rochester,
13th January, 1960.

URBAN DISTRICT OF TONBRIDGE.

ROAD AND SEWER CONTRACT.

TRENCH WOOD NORTH ESTATE.

TENDERS are invited for the FIRST STAGE ROADWORKS and FOUL and SURFACE WATER DRAINAGE on the ABOVE HOUSING SITE. The Works comprise approx. 4,200 lin. yd. of Hardcore or Lean Concrete Roads, including Formation Excavation, Kerbing and Surface Water Drainage and the Provision of the Main Lengths of Foul and Surface Water Sewers to approx. 600 Houses.

Copies of the Specification, Bill of Materials and Form of Tender can be obtained from the Engineer and Surveyor, Tonbridge Castle, Tonbridge, Kent, at whose office the Plans and Conditions of Contract can be inspected. A deposit of Two Guineas is required, which will be returned on receipt of a bona-fide Tender not subsequently withdrawn.

Tenders, in plain envelopes, sealed and endorsed "Road and Sewer Contract—Trench Wood North Estate" be delivered to the undersigned not later than 12 Noon on MONDAY, 15th February, 1960.

The Council does not bind itself to accept the lowest or any Tender.

S. J. THORNE,
Clerk of the Council.

Tonbridge Castle,
Tonbridge,
Kent,
January, 1960.

BROMSGROVE URBAN DISTRICT COUNCIL.

FOUL SEWER AT HIGH HOUSE DRIVE, LICKEY, BROMSGROVE, WORKS.

The Council invite TENDERS for the ABOVE WORKS, together with all ancillary works. The approximate quantities are as follows: 84 lin. yd. 6in. dia. Foul Sewer.

Bills of Quantities and Specifications may be obtained from the Engineer and Surveyor, Council House, Bromsgrove, on a deposit of £2 2s. The deposits will be refunded on receipt of a bona-fide Tender and the return of all documents.

General Conditions of Contract and Drawings may be inspected at the above Office.

Tenders, in plain sealed envelopes, endorsed "High House Drive—Foul Sewer," are to be delivered to the undersigned not later than Noon on SATURDAY, 20th February, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

F. A. JESSOP,
Clerk to the Council.

Council House,
Bromsgrove,
14th January, 1960.

BLABY RURAL DISTRICT COUNCIL.

BRAUNSTONE SEWAGE DISPOSAL WORKS EXTENSIONS.

FIXED-PRICE TENDERS are invited from experienced contractors for the FOLLOWING WORKS to be completed within 18 months:

- Five 38ft. dia. Circular Reinforced Concrete Settling Tanks.
- Three 32ft. sq. Reinforced Concrete Digestion Tanks.
- One 70ft. dia. Percolating Filter in Blue Brickwork.
- Three Earth Shed Lagoon.
- Two Pumping Stations.
- One Agricultural Implement Store.

Together with Concrete Roadworks, Siteworks and appurtenant works.

Drawings may be seen, and Particulars and Forms of Tender obtained from MR. F. W. JAMES, Engineer and Surveyor, at the address below on payment of a deposit of £10 10s.

The Council do not bind themselves to accept the lowest or any Tender.

Sealed Tenders, in plain envelopes endorsed "Braunstone Sewage Works," to be addressed and delivered to the undersigned not later than 10 a.m. on MONDAY, 22nd February, 1960, if these conditions are not complied with, the Tender will be invalid.

J. J. DERRY,
Clerk of the Council.

Council Offices,
Narborough, Leics.
January, 1960.

CONTRACTS

KENT COUNTY COUNCIL.

ANNUAL TENDERS are invited for the SUPPLY of the UNDERMENTIONED ROAD MATERIALS and SERVICES for the year commencing 1st April, 1960:

Tender Form No.

Material: DRY STONE:

(4) Granite or Slag Chippings.

(5) Kent Ragstone.

(1) Gravel Aggregates.

COATED STONE:

(5) Bituminous Macadam (Supply and/or Supply and Lay).

(6) Cold Asphalt (Supply and/or Supply and Lay).

(7) Dense Tar Surfacing (Supply and/or Supply and Lay).

(8) Hot Rolled Asphalt (Supply and/or Supply and Lay).

(9) Tarmacadam (Supply and/or Supply and Lay).

SURFACE DRESSING:

(10) Tar or Bitumen Compounds.

(11) Cold Emulsion.

(12) Concrete Products.

(13) Traffic Signs.

MISCELLANEOUS SERVICES:

(13) Plastic Traffic Lines.

(14) Heating and Planing of Carriageways.

(15) Hire of Mechanical Haulage.

(16) Hire of Mechanical Plant.

(17) Hire of Tamping and Finishing Machine and Laying of Coated Macadam.

Full Details, including Specifications and Forms of Tender, can be obtained from the County Supplies Officer, Supplies Department, Sandling Road, Maidstone.

GERALD BISHOP,
Clerk of the County Council.

County Hall,
Maidstone.

COUNTY BOROUGH OF DEWSBURY.

ANNUAL CONTRACTS.

The CORPORATION invite TENDERS for the UNDERMENTIONED MATERIALS required by the Highway Department for a period of 12 months commencing 1st April, 1960:

(1) Granite and Limestone Macadam Chippings.

(2) York Stone Kerbs, Flags and Setts.

(3) Tarrad/Limestone Granite, Slag, Limestone, and Asphaltic and other Toppings.

(4) Concrete Flags and Kerbs.

(5) Surface Dressings, Tars, Bitumens, Pitch, Cressote, Surface Spraying.

(6) Iron Castings.

(7) Portland Cement.

(8) Sand, Gravel, Broken Stone, Pitching.

(9) Salt Glazed Pipes and Fittings.

(10) Steel Reinforcement.

(11) Bricks (Common and Engineering).

Forms of Tender, Specifications and General Conditions of Contract may be obtained from the Office of the Borough Engineer, Municipal Buildings, Halifax Road, Dewsbury, on receipt of an addressed foolscap envelope.

Tenders, in plain sealed envelopes, endorsed as directed, to be delivered to the undersigned not later than MONDAY, the 8th February, 1960.

The Corporation does not bind itself to accept the lowest or any Tender.

A. NORMAN JAMES,
Town Clerk.

Town Hall,
Dewsbury,
12th January, 1960.

COUNTY BOROUGH OF BURNLEY.

TENDERS FOR MATERIALS.

The CORPORATION invite FIXED-PRICE TENDERS for the SUPPLY and DELIVERY of the UNDERMENTIONED MATERIALS during the year ending 31st March, 1961:

Bitumen Macadam.

Earthenware Sewerage Pipes.

Limestone and Granite Chippings.

Concrete Flags.

Hydrated Lime.

Kerb and Channel.

Natural Stone Flags.

Portland Cement.

Sand.

Copies of the Specification and Form of Tender are obtainable from the Borough Engineer and Surveyor, 22/24 Nicholas Street, Burnley.

Tenders must be returned to the undersigned not later than SATURDAY, 30th January, 1960.

C. V. THORNEY,
Town Clerk.

BOROUGH OF BEDFORD.

(a) ERECTION OF 53 HOUSES.

(b) ERECTION OF 35 HOUSES.

TENDERS are invited in Two Separate Contracts for the ERECTION of the ABOVE HOUSES at BRICKHILL ESTATE.

The period for tendering will be a minimum of two weeks in each case.

Applications for Tender documents should be made to F. W. DAWKES, Borough Engineer and Surveyor, Newnham House, Horne Lane, Bedford, accompanied in each case by a deposit of £3 3s., which is returnable on receipt of a bona-fide Tender not subsequently withdrawn, not later than FRIDAY, 5th February, 1960.

G. F. SIMMONDS,
Town Clerk.

Town Hall,
Bedford.

THE URBAN DISTRICT COUNCIL OF ABERDARE.

DUSTBINS.

TENDERS are invited for the SUPPLY of 2,000 ROUND DUSTBINS.

Details may be obtained from the Engineer and Surveyor, Vestry Hall, Aberdare.

Tenders, giving full details of the Dustbins offered, and firm dates for delivery, must reach me, in plain sealed envelopes bearing no mark or indication of the sender but endorsed "Dustbins," on or before FRIDAY, 5th February, 1960.

D. G. JAMES,
Clerk of the Council.

Town Hall,
Aberdare,
13th January, 1960.

NORFOLK EDUCATION COMMITTEE.

TENDERS are invited for the SUPPLY of COAL and COKE to WYMONDHAM COLLEGE for the year commencing 1st May, 1960.

Forms of Tender may be obtained from the undersigned, and Tenders, in the envelope provided, must be delivered to the Clerk of the Norfolk County Council not later than 12 Noon on 12th FEBRUARY, 1960.

F. LINCOLN RALPHS,
Chief Education Officer.

County Education Office,
Stracey Road,
Norwich.

CONTRACTS

COUNTY BOROUGH OF NEWPORT.

NASH ROAD (PART) RECONSTRUCTION
(600 YD. APPROX.).

TENDERS are invited for the EXECUTION of the ABOVE WORKS, which include KERBING, CHANNELLING, TARMACADAM FOOTWAYS, BITUMINOUS MACADAM REGULATING COURSE to the CARRIAGEWAY and ancillary Works. Specifications, Bills of Quantities and Forms of Tender may be obtained from, and the Drawings inspected at, the office of the Borough Engineer, Civic Centre, Newport, Mon., on production of the Borough Treasurer's receipt for £2.2s., which will be returned on receipt of a bona-fide Tender. Tenders, enclosed in the envelope provided and endorsed "Nash Road Reconstruction" and not bearing any name or mark indicating the sender, must reach the TOWN CLERK not later than 1 p.m. on the 4th FEBRUARY, 1960.

COUNTY BOROUGH OF HASTINGS.

PINK GRANITE CHIPPINGS FOR SURFACE DRESSING.

TENDERS are invited for the SUPPLY of the FOLLOWING:

- Approx. 50 tons 1/2 in. Clean Cubical Pink Granite Chippings;
- Approx. 185 tons 1/2 in. Clean Cubical Pink Granite Chippings;

delivered by rail in full truckloads to West Marina Station, Hastings, and by road direct to Corporation Depot, Hastings.

Tenders, on headed notepaper, placed in sealed envelope and endorsed "Tender for Pink Granite Chippings," should be sent to the undersigned not later than 10 a.m. on MONDAY, 8th February, 1960.

Samples of Chippings, stating quarry, shall be sent to the Borough Engineer, 37 Wellington Square, Hastings, at the same time as the Tender is submitted.

The Council does not bind itself to accept the lowest or any Tender.

N. P. LESTER,
Town Clerk.

COUNTY BOROUGH OF MERTHYR TYDFIL.

ANNUAL TENDERS FOR SUPPLIES—1960/1961.

TENDERS are invited for the SUPPLY and DELIVERY of the UNDERMENTIONED REQUIREMENTS for the 12 months commencing 1st April, 1960:

- (1) Ironmongery.
- (2) Road Macadam.
- (3) Crushed Stone/Slag Aggregates.
- (4) Precast Concrete Products.
- (5) General Builders' Stores.
- (6) Cleaning Materials.
- (7) Brushes.
- (8) Electrical Goods.
- (9) Iron Castings.
- (10) Glazed Stoneware Products.
- (11) Slag Ballast.
- (12) Gritting Materials.
- (13) Natural Stone Products.
- (14) Ready Mixed Concrete.

Documents will be available to bona-fide merchants, manufacturers, and other suppliers, on application to the Borough Engineer and Surveyor, Town Hall, Merthyr Tydfil, Glam.

Applicants must state which of the goods they wish to tender for, and Tenders must be sent in a sealed envelope endorsed "Tenders for ——" but bearing no mark or name indicating the sender, to the undersigned not later than First Post on SATURDAY, 20th February, 1960.

The Council reserve the right to accept Tenders in whole or in part, but do not bind themselves to accept the lowest or any Tender.

T. S. EVANS,
Town Clerk.

Town Hall,
Merthyr Tydfil, Glam.
21st January, 1960.

BOROUGH OF MORECAMBE AND HEYSHAM.

ANNUAL TENDERS—1960/61.

- (1) Cast-iron Pipes and Specials.
- (2) Cement (all grades).
- (3) Granite Chippings.
- (4) Granite Concrete Flags and Kerbs.
- (5) Limestone Pitching and Crushed Limestone.
- (6) Sande, Gravels.
- (7) Tarmacadam (all grades).
- (8) Surface Dressing by Tank Sprayer, inclusive of Refined Hot Road Tar required.
- (9) Grade 4 Rock Salt.

Forms of TENDER for the ABOVE may be obtained from the Borough Engineer and Surveyor, Town Hall, Morecambe and Heysham. Applicants should state clearly the classes of materials for which Tender documents are desired.

Completed Tenders, endorsed as indicated thereon, must be received by 9 a.m., FRIDAY, the 19th February, 1960.

ROGER ROSE,
Town Clerk.

15th January, 1960.

BOROUGH OF ELLESMERE PORT.

CONTRACT NO. 286.
PROPOSED OUTFALL SEWERS, TOWN CENTRE.

TENDERS are invited for the CONSTRUCTION of 354 lin. yd. of 27in. dia. SURFACE WATER SEWERS and 41 lin. yd. of 9in. dia. FOUL SEWERS, in WELLINGTON ROAD and GRANGE ROAD.

Contract documents obtainable from the Borough Engineer and Surveyor, Queen Street, Ellesmere Port, on and after Saturday, 23rd January, 1960.

Sealed Tenders in the plain official envelope provided, must reach the undersigned by not later than 5 p.m. on MONDAY, the 8th February, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

R. J. BERNIE,
Town Clerk.

Municipal Offices,
Ellesmere Port,
14th January, 1960.

CITY OF CHESTER.

CONTRACT NO. 572.

PLAS NEWTON LANE IMPROVEMENT.

Approx. 1,100 lin. yd. of 24ft. CARRIAGEWAY, TWO 13ft. FOOTWAYS, 2,100 lin. yd. of GLAZED STONEWARE FOUL and SURFACE WATER SEWER WORKS from 9in. dia. to 12in. dia.

Specification, Bill of Quantities and Form of Tender may be obtained from, and the Drawings inspected at, the Office of the City Engineer and Surveyor, 39 Northgate Street, Chester.

Tenders, in sealed envelopes endorsed "Plas Newton Lane Improvement," must reach the TOWN CLERK, Chester, on or before SATURDAY, 6th February, 1960.

CONTRACTS

COUNTY BOROUGH OF BIRKENHEAD.

TENDERS are invited for SUPPLY to the Corporation Departments of PETROL, DIESEL OIL, GAS and MARINE DIESEL OILS and BOILER FUEL OIL for the 12 months commencing 1st APRIL, 1960. Form of Tender, Specifications and details from the TOWN CLERK, Town Hall, Birkenhead. Closing date for Tenders 4th FEBRUARY, 1960.

BOROUGH OF CHELTENHAM.

HATHERLEY LANE RECONSTRUCTION.

TENDERS are invited for the RECONSTRUCTION of HATHERLEY LANE. The Work comprises the Reconstruction of approx. 9,000 sq. yd. of Carriageway, 1,000 sq. yd. of Asphalt Footpath, 700 lin. yd. of 9in. and 12in. dia. Surface Water Sewer and appurtenant Works.

Specification, Bill of Quantities and Form of Tender (Fixed-price Tender) may be obtained from the undersigned on payment of a deposit of Three Guineas, to be refunded on receipt of a bona-fide Tender not subsequently withdrawn and the return of all documents. Conditions of Contract, Plans, etc., may be inspected at this office during the usual working hours.

Tenders, together with fully priced Bill of Quantities, enclosed in the envelope provided, are to be received by the Town Clerk, Municipal Offices, P.O. Box No. 12, Cheltenham, by Noon on THURSDAY, 11th February, 1960.

The Council does not bind itself to accept the lowest or any Tender.

G. GOULD MARSLAND,
Borough Engineer.

Municipal Offices,
Cheltenham.

BOROUGH OF DAGENHAM.

THREE-TON TRAILER.

TENDERS are invited for the SUPPLY of ONE THREE-TON TRAILER. Low-loading Type. All-steel Body, with 1/2 in. Gauge Steel Floor, Over Wood, and Fitted Three Run Up Steel Runners.

Full Specification and Form of Tender, etc., may be obtained from the Borough Engineer and Surveyor.

Tenders, in the official envelopes provided, must be delivered to me by the 10th FEBRUARY, 1960.

KEITH LAUDER,
Town Clerk.

Civic Centre,
Dagenham.

BOROUGH OF NEATH.

ANNUAL TENDERS FOR MATERIALS AND HAULAGE—1960/61.

The NEATH CORPORATION invite TENDERS for the UNDERMENTIONED, for the period of 12 months from the 1st April, 1960, to 31st March, 1961:

- (a) Tarmacadam and Bituminous Macadam.
- (b) Broken Stone and Chippings.
- (c) Cement Paving, Kerbing and Channelling.
- (d) Haulage of Stone and Horse and Cart.
- (e) Paint, Varnish, etc.
- (f) Cement.
- (g) Oils.
- (h) Coal.
- (i) Road Castings.

Conditions, Specifications and Forms of Tender may be obtained from the Borough Engineer, Gwyn Hall, Neath.

Tenders must be sent in a plain sealed envelope, which shall not bear the name or mark indicating the sender, but shall be endorsed "Tender for ——" and delivered to me not later than 12 Noon on SATURDAY, 13th February, 1960.

D. KING DAVIES,
Town Clerk.

Town Hall,
Neath,
16th January, 1960.

SWADLINCOTE URBAN DISTRICT COUNCIL.

ANNUAL TENDERS—1960/61.

The Council invite TENDERS for the SUPPLY and DELIVERY of the FOLLOWING MATERIALS and STORES for the year ending on the 31st March, 1961:

- Tarred Limestone and Tarred Granite.
- Bituminous Limestone and Bituminous Granite.
- Lightly Tarred Granite Chippings.
- Limestone—Wet Mix.
- Dry Stone and Chippings (Granite and Limestone).
- Washed Crushed Gravel.
- Road Tar (Type A), including Spraying on to Roads.
- Fine Cold Asphalt.
- Portland Cement.
- Petroleum Spirit and Lubricating Oils.

Dustbins.

Concrete Kerbs and Paving Slabs.

Rebustling of Lewin Roadweeper Brushes.

Specifications, Conditions of Contract, Form of Tender and regulations as to tendering may be obtained from the Office of the Engineer and Surveyor, Bank House, Midland Road, Swadlincote.

Tenders should be enclosed in plain sealed envelopes bearing no indication of the sender, but endorsed "Tender for Materials or Stores, 1960/1961," and should reach the Office of the undersigned not later than the 15th FEBRUARY, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

C. D. HULL,
Clerk of the Council.

Clerk's Office,
Swadlincote,
12th January, 1960.

BANBURY RURAL DISTRICT COUNCIL.

ERECTION OF 38 DWELLINGS AT DEDDINGTON.

The Banbury Rural District Council invite TENDERS for the ERECTION of the ABOVE-MENTIONED TRADITIONAL HOUSES and BUNGALOWS.

Builders and contractors desirous of tendering are requested to submit their names and addresses to the undersigned within seven days of the appearance of this advertisement, accompanied by a deposit of Five Guineas, which will be refunded upon receipt of a bona-fide Tender not subsequently withdrawn, and the return of all documents.

The Form of Tender and Bill of Quantities and Specification will be available on or about the 1st FEBRUARY, 1960.

Drawings may be inspected at the Council Offices, Rodicote House, or at the office of MESSRS. CRESWELL AND HADLAND, Quantity Surveyors, at 50 The Green, Banbury, during normal office hours.

Tenders, in plain sealed envelopes endorsed "Tender 38 Dwellings at Deddington," must reach me not later than 10 a.m. on the 9th MARCH, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

J. K. TEASDALE,
Clerk of the Council.

Council Offices,
Rodicote House,
Banbury,
Oxon.

CONTRACTS

FLINTSHIRE COUNTY COUNCIL.

COUNTY SURVEYOR'S DEPARTMENT.

HIGHWAY PLANT PURCHASE.

TENDERS are invited for the SUPPLY and DELIVERY of the UNDERMENTIONED ITEMS of PLANT:—

- Item No.
- (1) Light Trucks or Vans.
- (2) Ferguson 35 and 65 Tractors and Attachments (including Grass Cutting and Verge Trimmer), Diesel or Petrol.
- (3) Motor Cycles and Sidecars.
- (4) Hydraulic Tipping Trailer.
- (5) Tar Boilers.
- (6) Concrete Mixers.
- (7) Compressors.
- (8) Vibrating Rollers.

Specifications, Conditions of Contract and Form of Tender may be obtained on application to the County Surveyor, Mr. E. W. W. RICHARDS, A.M.I.C.E., A.M.I.Struct.E., A.M.I.Mun.E., County Buildings, Mold. Tenders to be returned, in the envelopes supplied, by not later than the 8th FEBRUARY, 1960.

W. HUGH JONES,
Clerk of the County Council.

County Buildings,
Mold.

COUNTY BOROUGH OF TYNEMOUTH.

BOROUGH SURVEYOR'S DEPARTMENT.

TENDER FOR MATERIALS.

TENDERS are invited for the SUPPLY of the FOLLOWING MATERIALS for the year ending 31st March, 1961:—

- British Portland Cement.
- Whinstone, Gravel and Sand Aggregates.
- Tarmacadam, Bitumen Macadam and Fine Cold Asphalt.
- Road Surfacing and Reinstatement Works in Asphalt.
- Concrete Flags and Kerbs.
- Lime Mortar.
- Sanitary Pipes.
- Washleathers, Nails and Screws.

Paints and Paint Brushes.

Printing Paper and Linen.

Electric Lamps and Cable.

Lamp Columns, Lanterns and Fittings.

Taking-up and Laying Flags and Kerbs.

Housing Electric Accessories.

Applications for Schedules and Forms of Tender should be made to the Borough Surveyor, Mr. D. M. O'HERLIHY, O.B.E., B.Sc.(Eng.), M.I.C.E., 16 Northumberland Square, North Shields, and should quote the schedule required.

Tenders, enclosed in the special endorsed envelope provided, bearing no mark indicative of the sender, should be received by the Borough Surveyor at the above address before 9 a.m., MONDAY, 15th February, 1960.

The Corporation do not bind themselves to accept the lowest or any Tender. The right to accept the whole or part of any Tender submitted is reserved.

11th January, 1960. FRED. G. EGNER, Town Clerk.

COUNTY BOROUGH OF BIRKENHEAD.

WATER DEPARTMENT.

TENDERS are invited for the SUPPLY of ALL or ANY of the FOLLOWING CHEMICALS for water supply treatment for the 12 months commencing 1st April, 1960:—

- (a) Sulphate of Alumina delivered to Ashgrove Waterworks, Wrexham Road, Chester.
- (b) Sulphate of Alumina delivered to Alwen Reservoir, Cerrig-drudion, near Corwen, North Wales.
- (c) Precipitated Chalk, Ditto.
- (d) Hydrated Lime, Ditto.

Form of Tender, Specifications, etc., from the WATER ENGINEER, 601 Borough Road, Birkenhead. Closing date for Tenders, 15th FEBRUARY, 1960.

BOROUGH OF HEYWOOD.

TENDERS FOR STORES.

The COUNCIL is prepared to receive TENDERS for the SUPPLY of the FOLLOWING MATERIALS for the year ending 31st March, 1961:—

- Granite Chippings.
- Limestone Chippings.
- Setts, Flags and Kerbs (Local Stone).
- Broken Stone.
- Stoneware Pipes, etc.
- Filled Pitch.
- Cement.
- Iron Castings.
- Scavenger Brooms.
- Refills for Machine Brush.
- Paint and Varnish.
- Paint Brushes.
- Concrete Flags and Kerbs.
- Coated Macadam.
- Surface Dressing.

Samples and Specifications may be seen and Forms of Tender obtained on application to Mr. A. MIDDLETON, A.M.I.C.E., Borough Engineer and Surveyor, Municipal Buildings, Heywood, and applications, accompanied by addressed footscales envelopes, should be made before 3rd FEBRUARY, 1960.

Tenders, enclosed in plain sealed envelopes, endorsed "Tender for ——" must be delivered to the undersigned not later than SATURDAY, 6th February, 1960.

The Council does not bind itself to accept the lowest or any Tender.

W. R. PARKER,
Town Clerk.

Municipal Buildings,
Heywood,
13th January, 1960.

BOROUGH OF BASINGSTOKE.

VICTORY SQUARE PUMPING STATION.

TENDERS are invited for the SUPPLY and ERECTION of THREE ELECTRICALLY DRIVEN PUMPS, each with a capacity of 2,540 g.p.m. of Unscreened Crude Sewage, against a total head of approx. 100ft. The Pumps shall be complete with Motors, Starters, Actuating Mechanism and all ancillary Equipment.

Contract documents may be obtained on and after Monday, 25th January, 1960, from the offices of the Consulting Engineers, MESSRS. LEMON AND BLIZARD, 59 Tufton Street, Westminster, S.W.1. upon payment of a deposit of Three Guineas, which shall be returned upon receipt of a bona-fide Tender. Cheques must be crossed and made payable to the Borough of Basingstoke.

Tenders shall be delivered not later than Noon on TUESDAY, 8th March, 1960, to me at the Municipal Buildings, Basingstoke, in a plain sealed envelope endorsed "Tender for Pumping Plant, Victory Square."

L. WOMERSLEY,
Town Clerk.

Municipal Buildings,
Basingstoke,
Hants.

CONTRACTS

COUNTY COUNCIL OF ESSEX.

HIGHWAYS AND BRIDGES DEPARTMENT.

TENDERS are invited for the CONSTRUCTION OF PIERS on both sides of the GRAYS-TILLURY TOWN RAILWAY LINE. The work consists of Constructing Two Piers having a total length of approx. 250ft. on 136 Bored Piles, each Pile approx. 40ft. long.

This work must be completed before 31st May, 1960. Applications for Tender documents should be made to the County Surveyor, Old Court, Chelmsford, accompanied by a deposit of £2, which will be returned if a bona-fide Tender is received and not subsequently withdrawn. Drawings and Borehole Report may be inspected at the above Office during normal working hours.

Sealed Tenders must be delivered to the undersigned not later than 15th FEBRUARY, 1960.

CHRISTIAN BERRIDGE,
Clerk of the County Council.

County Hall,
Chelmsford.

COUNTY BOROUGH OF BURY.

CONSTRUCTION OF BOWLING GREEN.

TENDERS invited for CONSTRUCTION OF BOWLING GREEN and ancillary works at HOYLE PLAYING FIELDS.

Contract documents from Borough Engineer, Town Hall, Bury, where Drawings may be inspected.

Tenders, endorsed "Hoyle Green-Hoyle Playing Fields," must reach me not later than 8th FEBRUARY, 1960.

EDWARD S. SMITH,
Town Clerk.

Town Hall,
Bury.

13th January, 1960.

CITY OF OXFORD.

BLACKBIRD LEYS DEVELOPMENT.

SOUTHERN OUTFALL SEWER.

FIXED-PRICE TENDERS are invited for the CONSTRUCTION OF A FOUL SEWER OUTFALL for the above DEVELOPMENT. The work includes the following:

- (a) 1.125 lin. yd. of 18in. dia. Concrete Pipe Sewer.
- (b) 154 lin. yd. of 12in. dia. Glazed Stoneware Pipe Sewer.

(c) 15 Precast Concrete Manholes.
Contractors who have experience of carrying out this type of work expeditiously within strict time limits may obtain copies of the Contract documents from the City Engineer, Town Hall, Oxford.

Tenders are returnable, in accordance with detailed instructions contained in the documents, not later than 12 Noon on 18th FEBRUARY, 1960.

HARRY PLOWMAN,
Town Clerk.

Town Hall,
Oxford.

CITY OF BIRMINGHAM.

TO BUILDING CONTRACTORS.

CONTRACT 693-233 ONE, TWO, THREE- AND FOUR-STORY DWELLINGS.

KINGSHURST HALL ESTATE,
CASTLE BROMWICH.

The HOUSEBUILDING COMMITTEE invite FIRM-PRICE TENDERS for the ERECTION OF THE ABOVE. Bills of Quantities and Form of Tender will be forwarded on payment of £2 2s. at the Office of A. G. SHEPPARD FIDLER, City Architect, Civic Centre, Birmingham, 1, to whom all cheques should be made payable. Applications should be made by 26th JANUARY, 1960.

Conditions of Contract (which include the usual Fair Wages and Conditions of Labour Clause) may be seen at the City Architect's Office during normal working hours.

The deposit will be returned on receipt of a bona-fide Tender, or on notification of inability to tender, together with the return of the documents not later than three days before the date for receipt of Tenders.

Tenders, enclosed in the envelope provided for the purpose, must be sealed and delivered to the Town Clerk's Office (Room No. B.31), Council House, Birmingham, 1, not later than 12 Noon on THURSDAY, 25th February, 1960. Tenders received after that time will be rejected.

The Committee do not bind themselves to accept the lowest or any Tender.

J. F. GREGG,
Town Clerk.

Council House,
Birmingham, 1.

CARSHALTON URBAN DISTRICT COUNCIL.

TENDERS are invited for the SUPPLY of approx. 20,000 gallons of COMMERCIAL GRADE MOTOR SPIRIT during the year ending 31st March, 1961. Forms of Tender may be obtained from the undersigned. No Tender will be accepted unless in a plain sealed envelope, addressed to the Chairman of the Council at these Offices, and delivered not later than 12 Noon on FRIDAY, 5th February, 1960. The envelope must be endorsed "Tender for Motor Spirit," but must not bear any name or mark indicating the sender.

The Council do not bind themselves to accept the lowest or any Tender.

C. H. DURRANT,
Clerk of the Council.

District Council Offices,
The Grove,
Carshalton.

COVENTRY CORPORATION.

TENDERS invited for ERECTION OF 12 SEMI-DETACHED THREE-BEDROOM HOUSES, with GARAGES, at ST. JAMES' LANE, and/or One DETACHED HOUSE at VILLIERS STREET. Traditional construction.

Two Guineas deposit by 27th JANUARY, payable to Coventry Corporation, for documents (refundable on return of documents and receipt of Tender by closing date). Completed Tenders by 29th FEBRUARY to CITY ARCHITECT, Council House.

COVENTRY CORPORATION.

TENDERS invited for SUPPLY OF FOLLOWING MATERIALS during period 1st April, 1960, to 31st March, 1961—

- (1) Bricks, Cement and other Building Materials.
- (2) Granite, Tarmac, Precast Concrete and other Road Materials.
- (3) Salt Glazed Ware, etc.
- (4) Iron Castings.
- (5) Paints.

Tender Forms and particulars from CITY ENGINEER, Council House, Coventry. Completed Tenders returnable by Noon, 4th FEBRUARY, 1960. State schedules required.

CONTRACTS

BOROUGH OF PORT TALBOT.

COMPLETION OF ROADS—GEORGE SITE

SANDBIELDS
(ROAD FROM DALTON ROAD TO GOLDEN AVENUE).

SANDBIELDS NEIGHBOURHOOD UNIT.

TENDERS are invited for the FOLLOWING ROAD COMPLETION WORKS in connection with the ABOVE HOUSING SITE.

Works comprise approx. 12,500 sq. yd. of Road Surfacing; 1,300 lin. yd. of Kerbing; 83 Road Gullies and Frames; and 2,400 sq. yd. of Footpaths.

Plans may be inspected at the Borough Engineer's Department, Municipal Buildings, Port Talbot, and Specification, a Bill of Quantities and Form of Tender may be obtained on application to the Borough Engineer, MR. G. V. GRIFFITHS, A.M.I.C.E., on payment of a deposit of £2 2s. which will be returned on receipt of a bona-fide Tender and all documents.

Tenders, in a plain envelope endorsed "Completion Works—George Site," to be received by the undersigned not later than Noon, 15th FEBRUARY, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

W. KING DAVIES,
Town Clerk.

Municipal Buildings,
Port Talbot.

7th January, 1960.

BOROUGH OF WILLESDEN.

ANNUAL HIGHWAYS MAINTENANCE

CONTRACTS, 1960-61.

SEPARATE TENDERS are invited from well-experienced contractors for ONE or ALL of the FOLLOWING WORKS to be carried out in the financial year 1960-61—

TENDER No. 1.—Surface Dressing.—For Supplying and Spreading approx. 20,400 gallons of Tar or Cut-back Bitumen on Roads within the Borough. Contractor's vehicle must be capable of towing the Council's gritter.

TENDER No. 2.—Heating and Planing.—For Heating and Planing approx. 10,000 sq. yd. of Asphalt and Tarmacadam in Carriageways within the Borough.

TENDER No. 3.—Maintenance of Footways (Flag-paved Footways) within the Borough.

TENDER No. 4.—Maintenance of Carriageways—Hot Asphalt.—For the Maintenance of Hot Asphalt Surfacing on Roads within the Borough, together with other incidental works connected therewith.

TENDER No. 5.—Resurfacing of School Playgrounds and Paths in Parks and Cemeteries.—For the Resurfacing of School Playgrounds, Paths in Parks and Cemeteries, etc.

The Conditions of Contract and Specification may be obtained from the Borough Engineer and Surveyor on payment of a deposit of £1 for each Tender, which is returnable on receipt of a bona-fide Tender and must be returned to me not later than 10 a.m. on WEDNESDAY, 17th February, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

H. S. FORSTER,
Town Clerk.

Town Hall,
Dyne Road,
Kilburn, N.W.6.

URBAN DISTRICT COUNCIL OF WELLINGBOROUGH.

ANNUAL CONTRACTS, 1960-61.

The Council invites TENDERS for the SUPPLY of the FOLLOWING MATERIALS for the 12 months ending on the 31st March, 1961—

- (1) Sand and Gravel.
- (2) Tarred Slag.
- (3) Dry Slag and Wet Mix.
- (4) Granite Chippings and Wet Mix.
- (5) Paving Slabs.
- (6) Concrete Kerbs and Quadrants.
- (7) Lubricating Oils and Grease.
- (8) Petrol, Paraffin and Diesel Oil.
- (9) Cold Asphalt.
- (10) Cold Bitumen Emulsion.
- (11) Ground Rock Salt.
- (12) Coke.
- (13) Coal.
- (14) Disinfectants and Weckiller.
- (15) Toilet Rolls.
- (16) Soap.
- (17) Stoneware Pipes and Fittings.
- (18) Scavenging Brooms.
- (19) Refilling Mechanical Sweeper Brushes.
- (20) Cement.
- (21) Hydraulic.
- (22) Mixed Concrete.
- (23) Dustbins.
- (24) Gully Emptying.
- (25) Tyres and Tubes.
- (26) Boiler Suits.

Forms of Tender and Specification may be obtained from the Engineer and Surveyor at the Council Offices, Swanspool, Wellingborough.

Tenders must be delivered to me, in the envelope provided, not later than 12 Noon on SATURDAY, the 30th January, 1960, and after 25th January, 1960.

The Council do not bind itself to accept the lowest or any Tender.

Council Offices,
Swanspool,
Wellingborough.

9th January, 1960.

DUNMOW RURAL DISTRICT COUNCIL.

CONTRACT NO. 17.

LITTLE HALLINGBURY SEWERAGE AND

SEWAGE DISPOSAL.

TENDERS are invited, on a Fixed-price Basis in accordance with the Ministry of Housing and Local Government Circular No. 31/57, for the CONSTRUCTION OF SEWERAGE AND SEWAGE DISPOSAL WORKS at Little Hallingbury.

The Sewerage comprises, in all, the Laying of about 2,250 lin. yd. of 6in. dia. S.G.W. Sewer. Extensions are to be made to the existing Sewage Disposal Works and comprise a P-ramidal Sedimentation Tank, Biological Filter, Concrete Sludge Digestion Tank, Concrete Sludge Drying Beds, Extension to existing Sand Filter and Humus Tank, and Alteration to ancillary Pipework, Site Roads and Fencing.

General Conditions of Contract, Specification, Bills of Quantities and Drawings may be obtained from the Council's Consulting Engineers, MESSRS. J. D. AND D. M. WATSON, M.M.I.C.E., 67 Telford Street, Westminster, S.W.1, on and after 25th January, 1960, on payment of a deposit of Ten Guineas, refundable only to contractors who submit bona-fide Tenders and return all documents and drawings. Deposit cheques should be made payable to Dunmow Rural District Council.

The Council do not bind themselves to accept the lowest or any Tender.

Tenders must be returned in envelopes which do not bear any name or mark indicating the sender, endorsed "Tender for Sewerage Contract No. 17," and delivered at the Office of the undersigned by Noon on 4th MARCH, 1960.

A. H. BURTON,
Clerk of the Council.

Council Offices,
Dunmow, Essex.

CONTRACTS

BOROUGH OF WALTHAMSTOW.

ARCHITECT, ENGINEER AND

SURVEYOR'S DEPARTMENT.

TENDERS are invited for the SUPPLY of the FOLLOWING MATERIALS and SERVICES for the year ending 31st March, 1961—

- | | |
|--|--|
| (1) Cement. | (17) Salt Glazed Ware |
| (2) Hydrated Lime. | Pipes and Fittings. |
| (3) Clinker. | Petrol, Diesel Oil, |
| (4) Granite Aggregate. | Paraffin, etc. |
| (5) Sand. | (19) Fuel Oil. |
| (6) Aggregates for Concrete. | (20) Uniforms and Protective Clothing. |
| (7) Shingle. | (21) Plant Hire. |
| (8) Hosgins. | (22) Window Cleaning. |
| (9) Ready Mixed Concrete. | (23) Soaps, etc. |
| (10) Road Tar. | (24) Toilet Paper. |
| (11) Bitumen Emulsion. | (25) Electric Cords and Cables. |
| (12) Bituminous Concrete. | (26) Electric Lamps |
| (13) Bitumen Macadam. | (Tungsten, Sodium, Fluorescent, etc.). |
| (14) Tarmacadam. | |
| (15) Cold Asphalt. | |
| (16) Hot Rolled Asphalt and Precoated Chippings. | |

General Conditions, Specifications and Forms of Tender may be obtained from the Borough Architect, Engineer and Surveyor, Town Hall, Walthamstow, E.17.

Sealed Tenders, in the envelope provided, must be delivered to the undersigned not later than 12 Noon on MONDAY, 8th February, 1960.

The Council does not bind itself to accept the lowest or any Tender.

G. A. BLAKELEY,
Town Clerk.

LABOUR ONLY, SEWER WORK TO LET.

Start March. Many months' work. Near Brentwood, Essex.—Write Box X.9889, "The Contract Journal."

ESTIMATES prepared by Mr. R. J. CARR.

Britain's Free-lance Estimator, are ACCURATE, COMPETITIVE and PROFITABLE. Based on long practical experience. Full technical service available. 42 Coombe Road, New Malden, Surrey. Malden 8640.

TWELVE MONTHS' WORK for 30 8-wheel

LIPPERS hauling a distance of 50 miles available. Location Scotland.

Write Box X.9955, "The Contract Journal."

For Contracts received too late for
classification see page 321

APPOINTMENTS VACANT

CAERNARVONSHIRE COUNTY COUNCIL.

ROADS AND BRIDGES DEPARTMENT.

APPLICATIONS invited for permanently established POST OF PRINCIPAL ASSISTANT ENGINEER (BRIDGES), A.P.T. Grade, (£1,220-£1,375). Applicants should be corporate members of either Institution of Civil Engineers or Municipal Engineers, or hold equivalent qualifications and have considerable experience in preparing and carrying out road and bridge improvement schemes.

Commencing salary according to qualifications and experience. Temporary housing accommodation (rented) will be available if required.

Further particulars and application forms from CLERK OF COUNTY COUNCIL. Closing date 30th JANUARY.

BOROUGH OF ABERYSTWYTH.

WORKS OF WATER SUPPLY AND SEWERAGE.

APPOINTMENT OF RESIDENT ENGINEER.

The Council invite APPLICATIONS for the TEMPORARY POST OF RESIDENT ENGINEER on works of water supply and sewerage.

In the first instance the successful applicant will be required to work under the joint direction of the Council's Consulting Engineers (MESSRS. A. H. S. WATERS AND PARTNERS, of Birmingham), and the Central Electricity Generating Board's Consulting Engineers (MESSRS. FREEMAN, FOX AND PARTNERS, of London), on the supervision of the construction of a 12in. dia. lined and sheathed steel water main in mountainous country in the area of the Rhedol Hydro-Electric Project, about 12 miles east of Aberystwyth. Appropriate accommodation at scheduled rates, in the camps to be established in connection with the Project will be made available, if desired, while the successful applicant is engaged on such supervision. The duration of the Contract concerned is expected to be about three months, and during this time it will be necessary for the successful applicant to be designated "inspector."

He will also be engaged, under the direction of the Council's Consulting Engineers, on the supervision of Sewerage Contracts 1 and 2, which will consist, inter alia, of the construction of a large reinforced concrete sewage storage tank, and of sewerage, and repairs to sewerage, in tidal waters in Aberystwyth Harbour. The duration of these Contracts is expected to be about 18 months.

He may subsequently be engaged on the supervision of further capital schemes depending upon the phasing thereof.

He will probably be required to take up his duties at an early date.

The salary offered is at the rate of £1,500 per annum. Superannuation will be in accordance with the Superannuation Acts.

Applications, endorsed "Resident Engineer," and stating age, experience and qualifications, and giving the names and addresses of two persons, to whom reference may be made, must reach me not later than WEDNESDAY, the 27th January, 1960.

W. P. DAVIES,
Town Clerk.

Town Hall,
Aberystwyth.

13th January, 1960.

WALTON AND WEYBRIDGE URBAN DISTRICT COUNCIL.

APPOINTMENT OF BUILDING INSPECTOR.

GRADE A.P.T. II.

APPLICATIONS are invited for the APPOINTMENT of a BUILDING INSPECTOR at a salary in accordance with Grade A.P.T. II of the National Scale (£765-£880). Candidates must have a good general experience of the building trade and will be responsible for the inspection and report on deposited plans, together with the inspection of buildings during the course of erection.

A fixed car allowance of £125 per annum will be paid. Applications, on forms to be obtained from the Engineer and Surveyor at these Offices, must reach me not later than MONDAY, the 1st February, 1960.

EDWARD G. HUBBARD,
Clerk of the Council.

Council Offices,
Walton-on-Thames,
Surrey.

APPOINTMENTS VACANT

LONDON COUNTY COUNCIL.
HOUSING MANAGEMENT DEPARTMENT.

TECHNICAL ASSISTANTS REQUIRED for pensionable positions in works division. Salary up to £895, according to experience and qualifications:—

- (i) Maintenance Surveyors, experienced in maintenance of houses and flats, estimating for repairs, preparation of dilapidation schedules and reports.
- (ii) Bonus Surveyors for measuring and operating incentive scheme for bonus payments on maintenance work, mainly painting and decorating.
- (iii) Surveyors for measuring and operation of incentive scheme for bonus payments for all trades on new construction and large-scale modernisation and conversions.
- (iv) Assistant Surveyors for preparation of schedules of materials from drawings and specifications for ordering purposes.

Apply personally (Room 121, South Block), or telephone WAT. 5000, extension 6902 for further information, or write, giving age, full details of qualifications and experience and position applied for, to DIRECTOR OF HOUSING (Ref. HM/G/M38), County Hall, S.E.1. (2605)

SOMERSET COUNTY COUNCIL.
COUNTY SURVEYOR'S DEPARTMENT.

APPOINTMENT OF SENIOR ASSISTANT ENGINEER, GRADE A.P.T. V. (£1,220-£1,375).

APPLICATIONS are invited for the ABOVE APPOINTMENT from Corporate Members of the Institution of Civil Engineers and/or the Institution of Municipal Engineers. Applicant should have had experience in traffic engineering.

The County Council are considering the installation of an electronic computer and in the initial stages the appointment will involve part-time work on the civil engineering aspects of this installation, with particular reference to the design of a system which will give the engineers the technical information they require to carry out the works programme. The appointment does not involve work on the design of the machine itself.

Car allowance Surcannation.
Full particulars and forms obtainable from the undersigned.

Closing date: 2nd FEBRUARY, 1960.
J. H. H. WILKES, County Surveyor.
County Hall, Taunton.

BOROUGH OF BEXLEY.

APPOINTMENT OF DEPUTY BOROUGH ENGINEER AND SURVEYOR.

APPLICATIONS are invited for this APPOINTMENT from persons who are members of the Institution of Municipal Engineers and hold an equivalent qualification. Commencing salary £1,655 per annum, rising by three annual increments of £60 and one of £50 to £1,885. A car allowance on the essential user basis (10-h.p. or 1109 c.c.) is also payable. Particulars and conditions of appointment are obtainable from the Borough Engineer and Surveyor, West Lodge, Broadway, Bexleyheath, Kent, to whom completed applications should be returned by 30th JANUARY, 1960. The Council may be prepared to assist in the provision of housing accommodation. Canvassing will disqualify.

ARTHUR GOLDFINCH, Town Clerk.

BOROUGH OF HENDON.

BOROUGH ENGINEER AND SURVEYOR'S DEPARTMENT.

CLERK OF WORKS.

APPLICATIONS are invited for the ABOVE APPOINTMENT, at a commencing salary, according to experience, within the Grade A.P.T. II (£765-£830) plus London Weighting at £30 at age 25 and over. Pensionable post. Subject to National Scheme. Medical examination. Appointment terminable by one month's notice on either side.

Candidates must have a thorough knowledge of building construction and a wide experience of the building trade generally. Experience in the supervision of multi-storey flats is desirable.

Applications, stating age, qualifications, experience, present appointment, and the names and addresses of three referees, must reach the Borough Engineer and Surveyor, at the undermentioned address, by 8th FEBRUARY, 1960. Canvassing will disqualify.

R. H. WILLIAMS, Town Clerk.
Town Hall, Hendon, N.W.4.

BOROUGH OF DAGENHAM.

RESIDENT ENGINEER REQUIRED for approx. 12 months to supervise the construction of reinforced concrete roads, foundation rafts, sewers and drains, for housing development at Canvey Island, Essex. Salary £1,200 per annum.

Candidates with experience of supervising works of this nature should apply to the Borough Engineer and Surveyor for Form of Application and further particulars. Closing date: 1st FEBRUARY, 1960.

KEITH LAUDER, Town Clerk.
Civic Centre, Dagenham.

CITY OF CARDIFF.

CITY SURVEYOR'S DEPARTMENT.

APPOINTMENT OF BUILDING SURVEYING ASSISTANT, A.P.T. Grade Two (£765-£880 PER ANNUM).

APPLICATIONS are invited for the VACANT POST of BUILDING SURVEYING ASSISTANT in the building maintenance section of the City Surveyor's Department.

The person appointed will be responsible (under the building maintenance manager) for the maintenance of houses and a variety of other Corporation properties and the control of a district comprising a labour force of approximately 400 men. He should be experienced in building works management, costing and estimating.

The appointment will be subject in all respects to the Scheme of Conditions of Service as approved by the National Joint Council for Local Authorities, the Local Government Superannuation Acts, the passing of a medical examination and termination of appointment by one month's notice on either side.

Applications, in suitably endorsed envelopes, should be received by me not later than the 28th JANUARY, 1960, and should state age, experience and qualifications, and include the names and addresses of three referees.

S. TAPPER-JONES, Town Clerk.
City Hall, Cardiff.
January, 1960.

APPOINTMENTS VACANT

COUNTY BOROUGH OF EAST HAM.

SENIOR ASSISTANT ENGINEER (GENERAL), GRADE III, £880-£1,065.

London Weighting is paid in addition. Salary in excess of the minimum must be paid, according to qualifications and experience.

A subsistence allowance may be granted over a reasonable period to the person appointed if unable to obtain suitable housing accommodation, necessitating the maintenance of two homes.

Further details and application form returnable by 5th FEBRUARY, 1960, from the Town Clerk, Town Hall, E.6.

METROPOLITAN BOROUGH OF SHOREDITCH.

DEPUTY ENGINEER AND SURVEYOR.

APPLICATIONS are invited for the ABOVE APPOINTMENT within J.N.C. Scale Grade C, at a commencing salary of £1,565 per annum, rising by one increment of £55 to a maximum of £1,620 per annum.

Candidates must be qualified Civil Engineers or Municipal Engineers and must have had considerable experience in municipal and traffic engineering.

Applications to the TOWN CLERK, Town Hall, Old Street, E.C.1, stating age, training and experience, and giving names of three referees, to arrive by 5th FEBRUARY, 1960.

BOROUGH OF LEYTON.

(Municipal Borough in Essex; population approx. 100,000.)

BOROUGH ENGINEER'S DEPARTMENT.

APPOINTMENT OF WORKS SUPERINTENDENT.

APPLICATIONS are invited for the FOLLOWING PERMANENT APPOINTMENT:

Works Superintendent within Grade A.P.T. V (£1,220-£1,375 p.a.), plus London Weighting of £30 p.a.

Applicants must have had considerable experience in the building industry, and the person appointed will be primarily responsible for the expansion of the Direct Labour Building Section of the Borough Engineer's Department and the supervision of all works carried out by Direct Labour.

Essential user car allowance and favourable consideration to the provision of housing accommodation.

Details and Conditions of the Appointment may be obtained on application to the Borough Engineer, Town Hall, Leyton, London, E.10, to whom completed applications should be sent not later than MONDAY, 8th FEBRUARY, 1960.

D. J. OSBORNE, Town Clerk.
Town Hall, Leyton, E.10.

BOROUGH OF BRIDGWATER.

HAWKBRIDGE RESERVOIR.

RESIDENT ENGINEER.

APPLICATIONS are invited for the APPOINTMENT of a RESIDENT ENGINEER at a salary of £2,000 per annum (no additional allowances will be paid apart from a car allowance on the essential user basis (10-h.p. or 1109 c.c.) and a subsistence allowance). The Local Government Officers, to supervise the construction of Hawkbridge Reservoir, working under the direction of the Corporation's Consulting Engineers, Messrs. John Taylor and Sons, Artillery House, Artillery Row, Westminster, S.W.1. The appointment is of a temporary nature, subject to one month's notice on either side, but is normally expected to last for 2½ years, commencing on 1st March, 1960. The appointment will also be subject to the Local Government Superannuation Acts.

The works include the construction of a mass concrete dam, road diversions, and water treatment plant.

Applicants must be Corporate Members of the Institution of Civil Engineers and must have had at least five years' experience as Resident Engineer in charge of large civil engineering works.

Applications, in writing, stating age, brief details of past experience, and the names of two Engineers to whom reference can be made, should be sent to the Town Clerk, Bridgwater, to reach him before FRIDAY, 29th January, 1960.

(Signed) H. A. CLICERO, Town Clerk.

CITY OF ROCHESTER.

CLERK OF WORKS—CIVIL ENGINEERING.

APPLICATIONS are invited for the APPOINTMENT of a TEMPORARY CLERK OF WORKS in the City Surveyor's Department to supervise municipal engineering schemes, at a salary of £16 per week.

The works will mainly comprise sewers and sewers on housing estates, improvements schemes, private street works, and drainage schemes.

While the appointment is of a temporary nature, it is anticipated that there will be a continuity of work for a considerable period of time.

Applications, stating age and details of experience, together with the names and addresses of two persons to whom reference may be made, should be delivered to J. A. PEEL, ESQ., A.M.I.C.E., A.M.I.Mun.E., City Surveyor, 66 Maidstone Road, Rochester, not later than Noon on TUESDAY, 26th January, 1960.

PHILIP H. BARTLETT, Town Clerk.

HARLOW DEVELOPMENT CORPORATION.

7th January, 1960.

APPOINTMENT OF ASSISTANT RESIDENT ENGINEER.

APPLICATIONS are invited for the ABOVE TEMPORARY APPOINTMENT on the staff of the Resident Engineer, to supervise the construction of Phase I of the Second Stage of the R. e. Meads Purification Works, near Hoo, Essex.

The works will be substantial in extent, involving the construction of various tanks in reinforced concrete, erection of associated special plant, laying of pipelines, extension to the administration building, installation of power generation, compressed air and pumping machinery, and sundry other works.

The salary will be within the £880-£1,065 per annum scale, and point of entry will be according to qualifications and experience.

Superannuation scheme. Accommodation available in Harlow.

The appointment, which will be taken up about the middle of March, 1960, is expected to last about two years and will be terminable by one month's notice on either side.

Applications, endorsed "Assistant Resident Engineer, Rye Meads," giving details of age, qualifications and experience, together with the names of three referees, should reach the GENERAL MANAGER, Terlings, Harlow, Essex, before 1st FEBRUARY, 1960.

APPOINTMENTS VACANT

BOROUGH OF HESTON AND ISLEWORTH.

ENGINEER AND SURVEYOR'S DEPARTMENT.

APPOINTMENT OF SENIOR ENGINEERING ASSISTANT.

APPLICATIONS are invited for SENIOR ENGINEERING ASSISTANT at a salary in accordance with Grade A.P.T. IV of the National Scale (£1,065 x £50-£1,220) plus London Weighting.

Candidates must have good civil or municipal engineering experience and be qualified by examination for Associate Membership of the Institution of Civil Engineers or the Institution of Municipal Engineers.

The appointment is a permanent one, and conditions of service are those of the National Scheme.

The Council is unable to assist the successful candidate with housing accommodation.

Applications on forms obtainable from the Borough Engineer and Surveyor, 83 Lampton Road, Hounslow, must be returned to him not later than Noon on MONDAY, 1st February, 1960, appropriately endorsed.

D. MATHIESON, Town Clerk.
Town Hall, Hounslow, Middx.

THE URBAN DISTRICT COUNCIL OF ABERDARE.

CLERK OF WORKS—TRANSPORT DEPOT.

APPLICATIONS are invited for the POST OF CLERK OF WORKS for the construction of the new Transport Depot at Aberdare.

Applicants must have experience of the erection of industrial steel-framed structures.

The Scheme of Conditions of Service for the Miscellaneous Classes of Officers, with the exception of Paragraph 4 (Overtime), will apply to the post, but the salary will be £950 per annum. A reasonable travelling allowance will be paid to a successful applicant living outside the Urban District.

The appointment will be for the duration of the work at the Depot (14 months), and any other schemes subsequently assigned to the Clerk of Works for supervision, but will nevertheless be subject to one month's notice on either side and to a medical examination.

Applications giving full details of qualifications and experience, and stating when the applicant can take up the appointment, with copies of two recent testimonials, must reach me on or before FRIDAY, 5th February, 1960.

D. G. JAMES, Clerk of the Council.
Town Hall, Aberdare.

BANSTEAD URBAN DISTRICT COUNCIL.

CLERK OF WORKS (HOUSING).

APPLICATIONS are invited for the APPOINTMENT of TEMPORARY CLERK OF WORKS in the Engineer and Surveyor's Department in connection with the erection of Road Sewer Purification Works at Sutton-in-Ashfield, Nottinghamshire. The work comprises the laying of 1,200 lin. yd. of 9 in. to 27 in. dia. concrete pipes, the installation of new pumping machinery at the existing Coxmoor Road Sewage Pumping Station, and the laying of additional pipelines at the purification works.

The Contract will be under the direction of the Council's Consulting Engineers, Messrs. J. D. and D. M. WATSON, M.M.I.C.E., 67 Tuford Street, Westminster, S.W.1.

The salary will be in the range £1,250-£1,350 per annum, depending on qualifications and experience. The appointment is expected to last seven to nine months and will be terminable by two months' notice on either side. Housing accommodation will be provided, if required.

Applicants should apply in writing to the undersigned not later than 30th JANUARY, 1960, giving full particulars of age, qualifications and experience, together with the names of two referees.

WALTER LAUGHTON, Clerk of the Council.
Barclays Bank Chambers, Low Street, Sutton-in-Ashfield, Notts.

GUILDFORD RURAL DISTRICT COUNCIL.

CLERK OF WORKS (CIVIL ENGINEERING).

APPLICATIONS are invited for the ABOVE TEMPORARY POST at a wage of £15 per week, in connection with main drainage schemes.

The successful applicant will be required to provide a car, and an allowance not exceeding 1199 c.c. rate will be paid.

Applications, together with the names of two referees, to be sent to the undersigned on or before 1st FEBRUARY, 1960.

J. W. SNAPE, M.I.Mun.E., M.R.S.H., Engineer and Surveyor.

Millmead House, Guildford, January, 1960.

STEVENAGE DEVELOPMENT CORPORATION.

APPLICATIONS are invited for the FOLLOWING APPOINTMENTS in the Chief Engineer's Department:—

(a) Engineer, A.P.T. IV, £1,065-£1,220. Applicants should have passed the final examination of either the Institution of Civil Engineers or the Institution of Municipal Engineers.

(b) Engineering Assistant, A.P.T. II, £765-£880. Applicants should have passed Part I of the Joint Examination of the Institution of Civil Engineers and the Institution of Municipal Engineers, hold a Higher National Certificate in Civil Engineering subjects, or hold a Degree in Civil Engineering.

The appointments offer interesting and varied engineering experience in the design, construction and supervision of roads, lighting services, sewerage and drainage. Superannuable posts. Medical examination.

Houseings available in due course where appropriate. Applications, stating full particulars, with names of two referees, in the CHIEF ADMINISTRATIVE OFFICER, Adams House, near Stevenage, Herts., by 5th FEBRUARY, 1960.

APPOINTMENTS VACANT MINISTRY OF LABOUR. CIVIL SERVICE.

QUANTITY SURVEYORS and ASSISTANT QUANTITY SURVEYORS REQUIRED by several Government Departments. Posts in London, Provinces, and occasionally overseas. London salaries for suitably qualified and experienced men over 25 years of age range from £830 to £1,500 per annum.

QUANTITY SURVEYING ASSISTANTS and others having some experience in quantity surveying, at salaries ranging from £87 10s. to £900 per annum also required. From £250 to £1,500 per annum.

Write for particulars of vacancies in each department, and forms, quoting J.Q.S., to MINISTRY OF LABOUR, Technical and Scientific Register, 26 King Street, London, S.W.1.

COUNTY OF NORTHUMBERLAND. COUNTY SURVEYOR'S DEPARTMENT.

APPLICATIONS are invited for TWO ENGINEERING ASSISTANTS on A.P.T. Grade IV (£,965-£1,240) or Special Grade (£785-£1,070), according to qualifications. For Grade IV, candidates will be required to be fully qualified Civil, Municipal or Structural Engineers; for Special Grade, certain part of the Final Examination of these Engineering Institutions or a Higher National Certificate with endorsements will be accepted.

Applicants should have experience of structural design in steel and reinforced concrete or in the layout of roads on housing estates, control of development and making-up of private streets. Previous experience in Local Government would be an advantage but not essential.

The appointments are on the established staff of the Department and are subject to the Scheme of Conditions of Service of the National Joint Council, the Superannuation Acts, and to a satisfactory medical examination.

Applications, giving details of qualifications, experience, present and previous appointments and salaries, and giving the names and addresses of two referees, must reach the undersigned not later than 6th FEBRUARY, 1960.

G. F. GARNETT,
County Surveyor.

Phoenix House,
Queen Street,
Newcastle upon Tyne, 1.

CHESHIRE COUNTY COUNCIL. ROADS AND BRIDGES DEPARTMENT.

APPLICATIONS are invited for the FOLLOWING TEMPORARY APPOINTMENTS:

- (a) Resident Engineer—£1,500 p.a.
- (b) Assistant Resident Engineer—£1,250 p.a.

The successful applicants for (a) and (b) will be engaged on a contract in the Runcom area of the county, comprising approx. two miles of single carriage-way of flexible construction, extensive earthworks, two new bridges with brick-faced mass concrete abutments and reinforced concrete slab decks supported on girders, together with the improvement of approx. 1,000yd. of existing road.

(c) Resident Engineer—£1,000 p.a.

The successful applicant for appointment (c) will be required to supervise two contracts for the construction of reinforced concrete bridges over canals, together with incidental roadworks.

All the above appointments will be for the duration of the contracts (approx. 12 months), subject to satisfactory service, and will be terminable by one month's notice on either side.

Applications, stating age, qualifications, experience, and appointment desired, together with the names and addresses of two referees, must reach the COUNTY SURVEYOR, Backford Hall, near Chester, by MONDAY, the 1st February, 1960.

COUNTY BOROUGH OF EAST HAM. TEMPORARY APPOINTMENT OF APPROX. 12 MONTHS ON A CONTRACT AT HUTTON.

Applicants must have had comprehensive experience, preferably in a similar position:

Clerk of Works (Roads and Sewers), A.P.T. I—Salary up to £795 per annum.

Forms of Application, returnable by 29th JANUARY, 1960, from the TOWN CLERK, Town Hall, East Ham, E.6.

COUNTY BOROUGH OF EAST HAM. ENGINEERING ASSISTANTS, A.P.T. I—SALARY UP TO £795 PER ANNUM.

Subsistence allowances may be granted over a reasonable period to the persons appointed unable to obtain suitable housing accommodation, necessitating the maintenance of two homes.

Further details and Application Forms, returnable by 5th FEBRUARY, 1960, from the TOWN CLERK, Town Hall, East Ham, E.6.

BOROUGH OF WANSTEAD AND WOODFORD. ASSISTANT WORKS SUPERINTENDENT—A.P.T. II (£765-£880) PLUS LONDON WEIGHTING.

APPLICATIONS are invited for the ABOVE ESTABLISHED APPOINTMENT. Preference will be given to applicants with previous municipal experience, particularly on highways and sewerage work.

Forms obtained from, and to be returned to, the BOROUGH ENGINEER, Municipal Offices, Woodford, E.18, by First Post on MONDAY, 8th February, 1960. Housing accommodation is available on a service tenancy.

FORMBY URBAN DISTRICT COUNCIL. CONSTRUCTION OF SEWAGE DISPOSAL WORKS. APPOINTMENT OF RESIDENT ENGINEER.

APPLICATIONS are invited from experienced persons for APPOINTMENT as RESIDENT ENGINEER to supervise the construction of the above works under the direction of the Consulting Engineers.

Subject to satisfactory service, it is expected that the appointment will be for a period of 15 months and the salary will be £1,000 per annum.

Housing accommodation will be provided if necessary. Applications, stating age, qualifications, and giving full particulars of experience, together with the names of three Engineers or previous employers to whom reference can be made, should be delivered to the CLERK OF THE COUNCIL, Council Offices, Formby, near Liverpool, not later than MONDAY, 1st February, 1960.

MANCHESTER CORPORATION. CLERK OF WORKS, A.P.T. I (£610-£765), REQUIRED to assist in the supervision of varied contracts on bridges, main drainage and runway extensions at Manchester Airport.

Applications, stating age, experience, etc., to the CITY SURVEYOR, Town Hall, Manchester, 2, by 8th FEBRUARY 1960.

APPOINTMENTS VACANT

TERRESEARCH, LTD., REQUIRE for their permanent staff a GENERAL FOREMAN for bored piling and other foundation concrete work. Applications are invited from men experienced in this type of work who are prepared to travel anywhere in the U.K. and to reside in the London area. Apply in writing to **TERRESEARCH, LTD.,** Ruislip Road, Northolt, Greenford, Middlesex.

ASSISTANT ESTIMATING SURVEYOR REQUIRED by rational firm of contractors at their Middlesex office. Must be experienced in the preparation of bills of quantities and be able to prepare material schedules for ordering. Write giving full particulars of age, experience and salary required, to Lox V.9915, "The Contract Journal."

CONSULTING Engineers urgently REQUIRE additional staff in London and Darlington. **ENGINEERS and DRAUGHTSMEN** for both reinforced concrete and steel structures. Apply to **F. R. BULLEN and PARTNERS,** Dacre House, Dean Farrar Street, S.W.1.

HUMPHREYS, LTD.

AGENTS/GENERAL FOREMEN, holding building or civil engineering qualifications, are asked to submit details for consideration. Contracts in mind are mainly in London and the Home Counties. Superannuation scheme and other amenities available after trial period, plus attractive salaries.—Replies, please, to:

Personnel Manager,
HUMPHREYS, LTD.,
199 Knightsbridge, London, S.W.7.

GENERAL FOREMAN REQUIRED by old-established civil engineering company based in London. Must have personality and initiative and a thorough knowledge of all aspects of the industry, including contract work, use of plant and organisation. Permanent, pensionable employment is offered and applicants should write in the first instance, giving full details of their personal history, previous experience, and the firms for whom they have worked, to Box V.9893, "The Contract Journal."

W. AND C. FRENCH, LTD., urgently REQUIRE fully experienced **BONUS SURVEYORS** for civil engineering and building contracts. Apply in writing, stating age, experience and salary to Personnel Manager, 50 Epping New Road, Buckhurst Hill, Essex.

CIVIL ENGINEERING ESTIMATOR, age about 30, with wide experience of tendering for all types of civil engineering contracts. REQUIRED by the **DEMOLITION and CONSTRUCTION CO., LTD.,** 3 St. James's Square, London, S.W.1. Applications, with details of experience, qualifications, details of experience, and salary required.

HUMPHREYS, LTD.

Building and civil engineering contractors, REQUIRE **ASSISTANT ESTIMATORS** for head office and Chester office; **SURVEYORS** for measuring for unit costing and tendering in London and the Home Counties; **PURCHASING ASSISTANTS,** male and female, for London office; **TRAINEE SURVEYORS,** 16-17 (five subjects G.C.E.), for London office. Good salaries and conditions, superannuation scheme, pensionable employment, and ample opportunities for advancement.—Apply by letter or telephone to:

Personnel Department,
HUMPHREYS, LTD.,
199 Knightsbridge, London, S.W.7.
Telephone: Kensington 3456.

MARTIN COWLEY, LTD., Senior Executives REQUIRED initially to act as AREA AGENTS on civil engineering contracts. Preference given to qualified Engineers who have had a successful past experience with the larger type contractor. Positions offer the opportunity of advancement and interesting career to ambitious Engineers.—Apply, stating full details of past experience, together with an indication of salary required, to 112, Jermyn Street, London, S.W.1.

DESIGNER/DRAUGHTSMAN, age 30 to 40, with experience of contractors' plant and its use in the field. Capable of supervising design and/or development. Must have experience of light dumpers and possibly concrete mixing machinery. Good prospects and opening for right applicant with rapidly expanding company. Location: please 1 part East Coast of Scotland.—Reply, in strictest confidence, to Managing Director, Box V.9922, "The Contract Journal."

GENTLEMAN, experienced in controlling large-scale industrial painting contracts from the estimating stage through and up to conducting meetings with clients at high level. REQUIRED to assist the managing director in just such duties. Salary on a generous scale, depending on experience and ability. Superannuation. Age not much later than in the 40s. Apply in first instance to the Secretary, **THOMAS COTTON, LTD.,** Moor Lane, Mansfield, Notts.

HUMPHREYS, LTD.

CHARGEHAND FOREMEN of proved ability REQUIRED. Attractive salaries positions available to the right men.—Details, please, to:

Personnel Manager,
HUMPHREYS, LTD.,
199 Knightsbridge, London, S.W.7.

YOUNG GRADUATE CIVIL ENGINEERS

REQUIRED by old-established firm based in London. Duties include contract work and design, etc. Applicants should have good knowledge of the industry and be prepared to take responsibility. There are excellent opportunities for advancement and there is a pension scheme operating within the Company. Applicants should write in the first instance, giving the fullest history of their career, previous employers, and all other personal details, together with salary required.—Write Box V.9894, "The Contract Journal."

CURRALL, LEWIS & MARTIN, LTD., REQUIRE AGENT or FOREMAN/AGENT, **ENGINEERS and GENERAL FOREMEN** for construction of a large brick and concrete culvert and foul water sewers at Aston, Birmingham. The work includes deep excavation in open-cut heading, heavy timbering and steel sheet piling. Applicants should be fully experienced in similar work.—Apply in confidence, stating age, full details of experience and salary expected, to Managing Director, 11 Booth Street, Birmingham, 21.

APPOINTMENTS VACANT

YOUNG CIVIL ENGINEER WANTED, preferably with some experience of estimating, to work in London office of civil engineer and contractor. This position is progressive and can ultimately produce a variety of experience apart from estimating, including the possibility of work overseas.—Write in the first instance, giving full details of age, experience, salary required, etc. to Box V.9934 "The Contract Journal."

CONTRACTS MANAGER REQUIRED by a rapidly expanding company to take charge of civil engineering contracts, mainly in the Yorkshire area. Applicants, preferably qualified, must be over 36 and have had extensive experience in a similar position. Remuneration by salary according to experience and immediate entry into a first-class pension scheme.—Apply in writing, giving full details, to Box V.9953, "The Contract Journal."

GEORGE WIMPEY & CO., LTD., REQUIRE **FIRST-CLASS GENERAL FOREMEN.** Only men with experience on large contracts need apply. Applicants must be willing to travel in the U.K. Good remuneration offered to the right men.—Write, stating age and experience, to the Establishment Officer, 27 Hammersmith Grove, London, W.6, Ref. C848.

THE NORWEST CONSTRUCTION CO., LTD., Ruthe Road, Liverpool 2, invite applications from AGENTS, SUB-AGENTS, FOREMEN/AGENTS, fully experienced in Post Office duct-laying and manhole building contracts. The positions are permanent and progressive. Good salary and bonus, and a superannuation scheme in operation. Successful applicants required to travel to different areas throughout the U.K.—Apply in writing, with full details of previous experience.

BUILDING AND CIVIL ENGINEERING COMPANY

REQUIRE the following:—**PLANNING ENGINEER** To plan housing, flats, shops and some engineering works. Candidates should have a technical qualification of some standing in building or civil engineering, and have some experience of the applications of modern management techniques in the industry. This is a new appointment, and offers considerable scope for a suitable candidate.

For building and civil engineering contracts. Applicants must have had first-class experience and be capable of estimating for contracts of every size and description. This vacancy is being created by the expansion of the company, and the estimator will play his part in the future planned expansion.

PLANT MANAGER To take charge of all its plant. The plant manager will be required to maintain the plant in first-class condition, and will be responsible for both "hiring out" and "hire in" excess to the company and to "hire in" plant as requested. The right man will be given considerable freedom to develop all aspects of the job, and should have a minimum qualification of H.N.C. in mechanical engineering and supervision in the hire and maintenance of contractors' plant. Sites are in the Home Counties, and the company's head office is in the West End. Four-figure salaries are envisaged for the above appointments from applicants not over 40 years. Appointments will be permanent after a probationary period of six months, when applicants will be eligible for the company's sickness insurance scheme.

With knowledge of site valuations and experience of preparation of bills of quantities. Some knowledge of estimating an advantage. Applicant should preferably be between 21 and 25 years, and a starting salary of not less than £700 per annum is envisaged.

Reply, in confidence, to:

BOX V.1026, "THE CONTRACT JOURNAL."

THOMAS FLETCHER and CO., LTD., have vacancies for ENGINEER/AGENTS, aged 28-40. Preferably qualified but not essential. These are permanent appointments for the right applicants.—Reply, giving full details, to Managing Director, Head Office, Forest Road, Mansfield, Notts.

AN ASSISTANT ENGINEER IS REQUIRED by C. J. PEARCE and CO., LTD., Civil Engineers and Public Works Contractors, of Southall, Dawley, Shropshire, England. Good salary and prospects in a young and growing company.

A FIRST-CLASS PRACTICAL ENGINEER REQUIRED by C. J. PEARCE and CO., LTD., Civil Engineers and Public Works Contractors, of Southall, Dawley, Shropshire, England. Good salary and prospects in a young and growing company.

ASSISTANT ENGINEER REQUIRED by expanding firm. Prospects of taking complete charge of contracts in interesting shell roof development. Previous site work experience essential.—THE PIPE LINE ENGINEERING CO., LTD., Chawton Alton, Hampshire.

AGENT/SUPERVISOR REQUIRED. Must be experienced in the laying both by machine and hand of hot-rolled asphalt and coated macadam. Good salary and conditions. Car provided. Work, in the main, will be in the Berkshire, Oxfordshire area, but must be prepared to travel.—Applications, in confidence, to the Manager, **AMEY'S ASPHALT CO., LTD.,** Sutton Courtney, Abingdon, Berks.

SENIOR GENERAL FOREMAN

REQUIRED for multi-storey reinforced concrete flats in South Wales area. Experience of this class of work essential.—Write in first instance, stating age, experience and salary required, to:

STONE and CO. (BRISTOL), LTD.,
Redland Road, Bristol, 6.

QUALIFIED SENIOR CIVIL ENGINEER for important prestressed concrete work in London. REQUIRED by contractors, offering also progressive career in growing organisation.—Write Box V.9998, "The Contract Journal."

CIVIL ENGINEER (Junior) REQUIRED by N. London contractors, for work on site and in head office. Applicants should preferably be qualified and possess up to three years' site experience. This is an excellent opportunity for an enthusiastic young engineer to join rapidly expanding organisation.—Applications should be submitted to Box V.9927, "The Contract Journal."

ESTIMATOR REQUIRED, fully experienced in minor street works, including drainage, foundation and other preparatory and surfacing work in London and the Home Counties.—Apply in confidence to Roads Manager, **VAL DE TRAVERS ASPHALTE, LTD.,** 21 Old Bailey, E.C.4.

APPOINTMENTS VACANT

SENIOR AGENTS (Civil Engineering):

Applications are invited from Engineers capable of controlling contracts up to £1m. At least 10 years' experience of heavy civil engineering, including earthmoving, piling, mass and reinforced concrete construction, is essential. Knowledge of prestressing, mix design and pavement construction would be an advantage. Technical qualifications, degree and/or A.M.I.C.E., or equivalent. An immediate vacancy exists for a large contract already secured, and further posts are offered to applicants who prefer to plan their contract from the tender stage. The posts are permanent in an expanding organisation and offer exceptional opportunity for advancement. Salary and allowances in accordance with experience and ability. Pension scheme in operation. Applicants should apply in confidence, giving full details of previous experience, qualifications, age, and quoting Ref. SA.1, to Box V.9971, "The Contract Journal."

MARTIN COWLEY, LTD.: SENIOR and JUNIOR SITE ENGINEERS REQUIRED for interesting civil engineering contracts. Preference given to qualified engineers.—Apply, stating full details and salary required, to 112 Jerm. St. Street, S.W.1.

CHIEF DRAUGHTSMAN REQUIRED by precast manufacturers producing street lighting, farm and industrial buildings, etc. Good housing available.—Apply, stating age, experience, and salary required, to Technical Director, CONCRETE UTILITIES, LTD., Great Amwell, Ware.

CIVIL ENGINEERING AGENT

COSTAIN (WEST AFRICA), LTD. wish to appoint a CIVIL ENGINEERING AGENT to control a contract in Lagos, Nigeria. The job involves a jetty, the reconstruction of foreshore, including berths, workshops and offices, and ancillary services. Candidates aged 30-40 should be qualified Civil Engineers with a minimum of five years' experience, at least two years of which must have been as Agent or Senior Section Engineer. Experience of building work is also required. Tours of 18 months each, followed by three months' paid leave in U.K. Salary not less than £2,000 per annum, with married accommodation provided free in Lagos. Kit allowance £80.—Please write to:

Senior Overseas Personnel Officer,
RICHARD COSTAIN, LTD.,
111 Westminster Bridge Road, London, S.E.1.

QUANTITY SURVEYORS and WORKER-UP are REQUIRED for work at Hunterston Nuclear Generating Station, Ayrshire in settlement of civil engineering contract. Full details of appointment will be given at interview, which will be arranged in London, Stockport, or site.—Applicants should give full details of age, experience and qualifications, if any, to The Contract Labour Department, SIMON-CARVES, LTD., Cheadle Heath, Stockport, quoting Ref. HS/33.

ASSISTANT REQUIRED to manager of hire department. Previous experience preferred but not essential. Salary according to experience.—Apply in writing to GRAYSTON PLANT and ENGINEERING CO., LTD., 32 Stewarts Road, S.W.8.

CIVIL ENGINEERING AGENT, qualified, age about 30 years. REQUIRED for a medium/large contract in Essex. Ability to organise fast production and quality control of concrete and an interest in site cost control is necessary. This post could lead to excellent prospects in a developing firm. Applications should be submitted to Lox V.9928, "The Contract Journal."

ENGINEER REQUIRED for setting-out and site measurements on various contracts in the Home Counties. It is anticipated that suitable applicant would shortly be promoted to Engineer/Agent. Pension scheme. Apply giving full details of experience and salary expected to Projects Manager, HIGHWAYS CONSTRUCTION LTD., Asphaltic House, Palace Street, S.W.1.

SENIOR ENGINEER/AGENT for reconstruction work in London. The project is of exceptional technical interest and offers many good organisational ability.—Write Box V.9999, "The Contract Journal."

RICHARD COSTAIN, LTD.

have a number of Overseas Vacancies for JUNIOR CIVIL ENGINEERS. Candidates with a degree, or equivalent qualification, should have had two years' experience in the field, preferably with contractors. These are permanent appointments and should appeal to young engineers wishing to make a career with a large and expanding firm of contractors. Tours of approx. 18 months. Salary and allowances according to location with bachelor accommodation provided free.—Send full details to:

Overseas Personnel Officer,
111 Westminster Bridge Road, London, S.E.1.

AGENTS REQUIRED for building contracts, London area. Applicants must have first-class administrative and practical experience in multi-story and concrete-framed buildings and a progressive attitude to cost control and pre-planning. Good salary for men with ability.—Apply in writing to M. GLEESON (CONTRACTORS), LTD., Farelton House, London Road, North Cheam, Surrey.

ASSISTANT PLANT MANAGER REQUIRED. Must have previous experience in plant hire company or associated industries.—Apply in writing, giving full details of previous experience and salary. **PROWING PLANT HIRE**, Bury Street, Ruislip, Middlesex.

SITE ENGINEER WANTED, experienced in prestressed reinforced concrete structures, road and bridge works. Salary £1,000-£1,200.—Apply **RANDALL, Contractors**, Nuneaton.

CHIEF CIVIL ENGINEER REQUIRED, operating from head office, to take charge of building and reinforced concrete contracts. Must have previously had similar experience with national contractors. Write, giving full details of experience, age, and salary required, to Box 965 c/o Geo. Murray (Adv.), Ltd., Columbia House, Aldwych, W.C.2.

MANAGER for landscape and public works company. Capable full responsibility; experienced estimator and surveyor. Permanent position.—Write Box V.9886, "The Contract Journal."

ENGINEER/AGENT REQUIRED by civil engineering contractors for sewers disposal contract. Applicants must have had a wife's experience in reinforced concrete and deep excavation and be able to control up to 150 men. Contributory pension scheme after approved service; permanent.—Write, giving age, qualifications, experience and salary required, to Box V.9973, "The Contract Journal."

APPOINTMENTS VACANT

COMPETENT MANAGER to take full charge of old-established builders' merchants business in busy town in Midlands. Must be very energetic, loyal, and have good connections. This old business has been neglected for some years; now taken over by a go-ahead firm. Financial interest would be given if required. Good salary with profit-sharing to right man.—Write Box V.9961, "The Contract Journal."

CIVIL ENGINEER REQUIRED for work in the Birmingham area.—Write, stating experience, and salary required, to P. J. FINNERAN, 51/52 Great Barr Street, Birmingham, W.1.

CIVIL ENGINEER REQUIRED for tunnel contract in London. Must have had at least one year's site experience.—Apply **MITCHELL, BRIDGES, SONS AND CO., LTD.**, 167 Victoria Street, London, S.W.1. VIC 4978.

MARTIN COWLEY, LTD.: SENIOR ESTIMATORS with experience of tendering for heavy civil engineering projects. REQUIRED. Positions offer opportunity for promotion and an interesting career to suitable applicants.—Apply, stating full details, to 112 Jermyn Street, S.W.1.

YOUNG CIVIL ENGINEERS WANTED by London contractor for site work in the first instance. These positions are progressive and can produce a variety of experience, including the possibility of overseas work. Write initially, giving details of experience and salary required, etc., to Lox V.9966, "The Contract Journal."

CHIEF CLERK REQUIRED for large constructional project near Tobruk. Age 25-40. Experience of book-keeping and general office procedure essential. Some experience or knowledge of costing an advantage. The successful applicant will be trained in this country prior to departure overseas and will be expected to enter into a contract with the company for the duration of the work, approx. 12 months. Salary £600; allowances as agreed. Passage paid out and home leave granted. Pension scheme in operation. Write or telephone for appointment to **CONSTABLE, HART AND CO., LTD.**, Lion House, Richmond, Surrey. Tel.: Richmond 6044.

LANDSCAPE CONTRACTS SUPERVISOR AND ESTIMATOR

Owing to continuous expansion, applications are invited from men with a general knowledge of landscape construction and sported work, including estimating and supervision of small and large contracts. Successful applicant will be required to assist generally with the estimating and supervision of work and control of labour, with view to taking over as Landscape Contracts Manager at an early date. Pension scheme.—Applications, treated in strictest confidence, stating briefly experience, commencing salary required, etc., to:

M-naging Director,
J. S. BISHOP AND CO., LTD.,
430 Bath Road, Slough, Bucks.

ASSISTANT ENGINEER REQUIRED, age 25-35, for design work on housing estate schemes, including site surveys, preparation of drawings and specifications. Good knowledge of sewerage and road design and good draughtsmanship essential. Pensionable permanent position with good prospects. Assistance can be given with living accommodation.—Please apply in writing, stating age, experience, and commencing salary required, and giving full details to Chief Engineer, **CROUDACE, LTD.**, Caterham, Surrey.

CONTRACTS MANAGER REQUIRED for civil engineering contractors. Birmingham. All applications treated in strictest confidence. Please state age, salary required, positions held, and qualifications. Good salary and pension scheme to right man.—Write Box V.9975, "The Contract Journal."

EXPERIENCED QUANTITY SURVEYOR REQUIRED for builders' office in Watford. Must be capable of handling large contracts, measuring, valuations and final accounts. Salary of £1,100 per annum will be offered to approved applicant possessing initiative and drive.—Particulars, stating age, experience, and all relevant details, to Box V.9974, "The Contract Journal."

NORTH HERTS. building and civil engineering company REQUIRE ESTIMATOR/SURVEYOR experienced in handling from inquiry to final account. The appointment is progressive, leading to a more responsible position.—Apply in writing to Box V.9972, "The Contract Journal."

GENERAL FOREMEN

REQUIRED by the CEMENTATION CO., LTD., for all classes of heavy civil engineering work in the United Kingdom. Applicants should have at least five years' successful experience as general foremen on large to medium sized civil engineering contracts. These positions offer good salaries and prospects for advancement. Please write, giving age and experience, to:

The Personnel Officer,
THE CEMENTATION CO., LTD.,
20 Albert Embankment, London, S.E.11.

GENERAL FOREMAN (Civil and Building). Overseas (Iran). Facheior appointment available, age, say, to 45/50. Firming station (pipeline) construction by U.S.A. organisation. All-round public works experience and survey; setting-out, or quantities experience especially advantageous. £150 monthly plus local allowance plus accommodation and travelling. Further Engineers, acting for principals, will assist selected applicants with further details.—Please apply by letter, giving general experience, employers, etc., to Box V.9981 "The Contract Journal."

ESTIMATOR/SURVEYOR: We are a large and progressive firm engaged in industrial buildings, housing and civil engineering work in the United Kingdom with a subsidiary in South-West England. We have vacancies for SENIOR PLANNERS and feel that ESTIMATOR/SURVEYORS would best fill the position. Preference will be given to candidates who have received instruction in work study and planning techniques, but training will be given to successful applicants who have not had previous experience. For further details, please apply to our personnel officer, who is a progressive staff policy, operating superannuation and profit-sharing schemes. Assistance in car purchase and accommodation and excellent salaries will be paid in accordance with qualifications and experience.—For further details and application form, apply in strict confidence, giving brief particulars and quoting Ref. CJ/5160, to **C. Ryan, Managing Director, FRYANT AND SON, LTD.**, Whitmore Road, Birmingham, 10.

RECORD CRANES are always interested in first-class DIRECTORS with sound electrical knowledge. Good prospects.—Apply 16 Victoria Street, S.W.1, VICTORIA 4583.

APPOINTMENTS VACANT

CIVIL ENGINEERING ASSISTANTS REQUIRED for site work on contracts. The work is varied and interesting, with opportunities for promotion and study of new methods. Applicants should be between the ages of 25 and 32, and hold a degree in civil engineering or equivalent. They should have had a minimum of three years with a contractor on site work, which must have included setting-out and progress measurement. Experience in design of formwork and other temporary works, control of concrete quality would be an advantage.—Apply in writing, giving brief details of qualifications and experience, also stating age, and salary required, to the Chief Engineer, **THE DEMOLITION AND CONSTRUCTION CO., LTD.**, 3 St. James's Square, S.W.1.

JUNIOR CIVIL ENGINEERS REQUIRED to work on sites, with excellent opportunities for training. Applicants should be graduates, or equivalent, and should be between the ages of 20 and 26.—Apply in writing, giving brief details of qualifications and experience (including vacation course work), also stating age, to the Chief Engineer, **THE DEMOLITION AND CONSTRUCTION CO., LTD.**, 3 St. James's Square, S.W.1.

WORK STUDY ENGINEER

REQUIRED by CROUDACE, LTD., a fast expanding South London company of building and civil engineering contractors. Must be fully experienced in method study and work measurement to join a well-established enthusiastic team dealing with the build-up of a synthetic library, incentives, short turn and pre-tender planning, plant layout and design cost research. An attractive salary will be paid commensurate with age, qualifications and experience. Pension scheme. Free life insurance and assistance with housing if required.—Please write, in strict confidence, to:

The Managing Director,
CROUDACE, LTD.,
Caterham, Surrey.

GENERAL FOREMEN to join expanding foundation company. Vacancies exist for supervisors of piling and reinforced concrete contracts, also for supervisors in manufacture of high-quality precast units in England and Scotland. Must be prepared to travel. Permanent offered and pension scheme.—Apply in writing to Production Manager, **WEST'S PILING AND CONSTRUCTION CO., LTD.**, Bath Road, West Drayton, Middlesex.

JUNIOR SITE ENGINEERS REQUIRED by **RICHARD COSTAIN, LTD.** Candidates, preferably aged 23-25, must have O.N.C. as a minimum qualification and must be experienced in the use of instruments. Posts based on Croydon, but considerable travelling involved; ability to drive useful. Salary up to £650 per annum, with good prospects for men interested in piling problems.—Apply initially to Personnel Officer, 111 Westminster Bridge Road, London, S.E.1.

TAKER-OFF REQUIRED at head office, Nottingham. Must be experienced all trades, also assist working-up and final accounts. Superannuation scheme in operation.—Apply, stating age, experience, and salary required, to W. J. SIMMS SONS AND COOKE, LTD., Haslemere, Surrey.

JUNIOR SITE ENGINEERS REQUIRED by a firm of civil engineering contractors operating in North and South East England. Duties include setting-out and records, etc. Good salary and prospects offered to energetic young men.—Write Box V.9963, "The Contract Journal."

CONTRACTS MANAGER REQUIRED by well-known firm of medium-sized contractors, head office in Central London. Must manage projects in Greater London area. Must possess sound qualifications, L.T.O.B. an advantage. 35 to 45 age group preferred. Write, stating age, experience and salary required, to Box V.1031, "The Contract Journal."

PLANT STOREKEEPER WANTED for new plant depot of large engineering organisation, approx. 20 miles north of London. Must be fully experienced in the handling of contractors' plant spares. Subsidise will be paid where applicable during probationary period, then housing accommodation can be offered. Permanent, progressive position; non-contributory pension scheme carrying life assurance benefits.—Please write in first instance, giving full details, to Box V.1042, "The Contract Journal."

ABLE and progressive DESIGNER-DRAUGHTSMEN, also **GENERAL FOREMEN**, REQUIRED overseas, thoroughly experienced in building or general building practice including reinforced concrete, or in civil engineering work of oil company type, including pipelines and refinery installations. Two-year contract, good pay, bachelor accommodation. Excellent opportunities.—Write immediately, with experience, age, etc., to Box V.1027, "The Contract Journal."

CONTRACTS SUPERVISOR

REQUIRED by leading building contractors, for interesting work in London and the Home Counties. Applications invited, giving full details of previous experience, from persons having suitable technical training and/or qualifications, and experience on important work, including preplanning. The appointment would offer excellent opportunities in a keen progressive organisation.

WRITE BOX V.1022, "THE CONTRACT JOURNAL."

SALES REPRESENTATIVE REQUIRED for Wiltshire and Gloucester by contractors' plant company holding leading sales agencies. Good basic salary with expenses, commission and company car. Knowledge of trade and territory an advantage but not essential. Only hard-working salesmen need apply. **HIRE, LTD.**, Bath Road, Bristol, 4.

GENERAL FOREMAN (Southern Area) REQUIRED for civil engineering work. Must be experienced in heavy excavation, reinforced concrete, etc., and be good organiser, able to supervise all sections of the work (trademen preferred).—Write, giving age, details of experience, and present salary, to Box V.1020, "The Contract Journal."

F. J. C. LILLEY (CONTRACTORS), LTD. have VACANCIES for SUP-AGENT/ENGINEERS and SECTION ENGINEERS on tunnel contracts in London and the Midlands. Applicants must have a sound knowledge of soft-ground tunnel work and be capable of supervising construction and setting-out.—Civil engineers who have undergone a thorough training in the industry should apply to the Assistant General Manager, Great Cambridge Road, by Church Street, London, N.9.

APPOINTMENTS VACANT

A SENIOR QUANTITY SURVEYOR is REQUIRED by expanding civil engineering contractors. This is a key appointment, permanent and pensionable, which offers considerable scope for the applicant with initiative and imagination. The successful applicant will be in charge of the quantity surveying department at head office and will be responsible for the preparation of interim and final accounts for general civil engineering and industrial building contracts. A car will be provided for site visits, but the position will not involve living away from home and should, therefore, appeal to those applicants with considerable site experience and who now wish to establish themselves in one area.—Applicants who should be aged between 35 and 45, should apply in writing, giving details of experience and present salary, to Chief Engineer, CLUGSTON CAWOOD, LTD., St. Vincent House, Normanby Road, Scunthorpe, Lincs.

JUNIOR CIVIL ENGINEERS urgently REQUIRED in our London office and on site, upon works of water supply and main drainage. Salaries £700-£1,000 per annum. Applications to HOWARD HUMPHREYS AND SONS, Consulting Engineers, Victoria Station House, Victoria Street, S.W.1. Please quote Ref. 390.

AN ASSISTANT to Sales Manager is REQUIRED by construction and mechanical equipment manufacturers located 25 miles north of London. Considerable energy and commercial engineering background is necessary to ensure versatility in the job. Applications for this well-paid, progressive position are requested to apply fully and in confidence to Lox V.1021, "The Contract Journal."

CIVIL ENGINEERING ESTIMATOR (Chief) REQUIRED for permanent, responsible appointment at the London office of WILSON LOVATT AND SONS, LTD. Must have had previous experience as Senior Site Engineer or Agent and be capable of estimating for all classes of civil engineering work. Applications, giving age, previous experience and approx. salary required, to 16 Grosvenor Crescent, London, S.W.1.

BUILDING INDUSTRY

STORES CONTROLLER for large building contractors in north-west. Should be able to initiate a comprehensive system of control for central and site stores, and to ensure adequate accounting and elimination of waste by correct handling and storage on sites. Excellent staff conditions, good salary, plus fringe benefits. Applicants should give full personal details and history of employment, in confidence.

WRITE BOX V.1018, "THE CONTRACT JOURNAL."

MANAGER REQUIRED for rapidly expanding sectional concrete building works. Must have good organising ability and be strong disciplinarian. Duties are to supervise and control all departments of this company, which include mould, carpentry, steel fabrication, dispatch, and erection departments. This is a permanent position and offers good prospects to suitable application.—Please write in confidence, giving details of experience, and salary required, to W. TIBBETTS AND SON, LTD., Barford Road, Bloxham, near Banbury, Oxon.

BUILDING SUPERVISORS REQUIRED by a national construction company. Applicants should have had considerable experience in the building industry and craft training. Salary between £1,000 and £1,300 per annum, according to experience; subsistence, bonus and pension schemes in operation.—Apply in writing, giving full details, to Box V.1013, "The Contract Journal."

ESTIMATOR: D. B. EVANS (BILSTON), LTD., have a VACANCY in their Midlands head office for a capable BUILDING ESTIMATOR with wide experience of competitive tendering for major building work. A car allowance will be paid, assistance given with housing if required, and a non-contributory pension scheme is in operation.—Apply in writing, in strict confidence, stating age, training, qualifications, experience, and salary required, to D. B. EVANS (BILSTON), LTD., Oxford Street, Bilston, Staffs, marking the envelope "Estimator."

YOUNG ENGINEER, with administrative ability and initiative, REQUIRED to assist Plant Engineer in repair and maintenance of excavators and mobile equipment. Work is based in Rotham area, but considerable travelling will be involved. Apply, stating age, experience, and salary required, to Box V.1016, "The Contract Journal."

CUBITTS

HOLLAND & HANNEN AND CUBITTS (OVERSEAS), LTD., REQUIRE a SECTION FOREMAN, well experienced in building construction, for an 18-months' tour in Northern Iraq, on an interesting project for a large oil company. Good salary and high standard of accommodation—bachelor only.—Applicants are invited to send full details, in writing, to:

Mr. E. Todd,
HOLLAND & HANNEN AND CUBITTS
(OVERSEAS), LTD.,
1 Queen Anne's Gate, London, S.W.1.

QUANTITY SURVEYOR, experienced in item costing, building/civil engineering, REQUIRED to control and develop costing procedure at Birmingham headquarters and on contracts.—Apply, stating age, experience, salary required, to Box V.1011, "The Contract Journal."

COST ACCOUNTANT, A.C.W.A., experience building/civil engineering preferred, but not essential. REQUIRED to develop and control cost office and unit costing at Birmingham headquarters and on contracts.—Apply in writing, stating age, experience, salary required, to Box V.1012, "The Contract Journal."

SENIOR ESTIMATOR/SURVEYOR REQUIRED for civil engineers and building contractors' office in Birmingham. Must be fully conversant in the preparation of tenders to final account. Good salary and permanent position. Please write to Lox V.1010, "The Contract Journal."

CIVIL ENGINEERING SUB-AGENTS REQUIRED for work in the Midlands area. Good wages and conditions offered, with plenty of scope for advancement. Non-contributory pension scheme in operation.—Apply D. B. EVANS (BILSTON), LTD., Oxford Street, Bilston.

YOUNG PLANT ENGINEER for civil engineering plant depot in Watford. Age not over 28 years. Experience in the use of heavy civil engineering procedure and knowledge of heavy civil engineering plant essential. Must be prepared to serve overseas if required.—Apply, stating age, experience and present salary, to Box V.1041, "The Contract Journal."

APPOINTMENTS VACANT

SALES REPRESENTATIVE REQUIRED. Must have experience of contractor's plant. Excellent prospects. Area, Middlesex and Bucks.—Write Box V.1036, "The Contract Journal."

TARMAC CIVIL ENGINEERING, LTD., have vacancies for experienced ESTIMATORS. These are permanent positions with good prospects for advancement.—Applications, which will be dealt with in strict confidence, must give details of age, experience, qualifications, salary required and should be addressed to Managing Director, TARMAC CIVIL ENGINEERING, LTD., Eppingham, Wolverhampton.

MARTIN COWLEY, LTD. The under-mentioned vacancies occur due to the company's expansion programme. Suitable applicants are offered a progressive and interesting career with remunerative salary, etc. Preference given to qualified civil engineers.—AREA AGENTS: Applicants must have had three to five years' experience, either as area agents or senior agents, on civil engineering projects. Positions offer an opportunity to progress to higher management. AGENTS: Agents required for varied types of civil engineering projects. Preference given to applicants with similar experience, or those employed as senior engineers capable of accepting responsibility as Agent. SENIOR AND JUNIOR SITE ENGINEERS: Preferably qualified engineers with experience on various civil engineering work. Positions offer an opportunity for promotion. Apply in writing, stating fullest details of previous employers, technical qualifications and salary required, to 112 Jermyn Street, London, S.W.1.

READY MIXED CONCRETE

EXPERIENCED PERSONNEL REQUIRED. COMMERCIAL MANAGER. preferably experienced with Agitators. Age 30-40. With ability and initiative to rapidly develop new department of an old-established business in the Midlands. Assistance with accommodation after satisfactory probationary period.

TECHNICAL ASSISTANT qualified to design mixes, carry out laboratory tests and technically assist with sales. Send full details of experience, ability, and present salary range, in confidence, to:

BOX V.1075, "THE CONTRACT JOURNAL."

CIVIL ENGINEER (Qualified), aged 30-40, REQUIRED by mining company West Africa as assistant to civil engineering superintendent. Knowledge of permanent way maintenance, in addition to general construction work, essential. Commencing salary £1,700 p.a. annum, plus 5 per cent. bonus plus for married man, passage or separation allowance of £10 per month and £5 per month for each child. Fifteen-month tour's followed by 10 years' leave on full salary in U.K. Return passage paid. Contributory pension scheme with retirement at age 55. Life assurance and dependants income schemes.—Write, giving full details of experience, stating age, married or single, to SIEBE LUNDE DEVELOPMENT CO., LTD., Dept. A.C.E.3, City Gate House, Finsbury Square, E.C.2.

For Advertisements received too late for classification see page 321

APPOINTMENTS WANTED

SENIOR CIVIL ENGINEER, qualified, 16 years' site experience, mainly R.C. work, DESIRES POST ENGINEER AGENT with progressive firm of contractors.—Write Box W.996, "The Contract Journal."

PROJECT MANAGER, with extensive experience in site organisation and management of large overseas construction contracts, including power stations and marine structures, SEEKS APPOINTMENT OVERSEAS. Write Box W.9990, "The Contract Journal."

CIVIL ENGINEER, at present abroad, SEEKS POSITION on large contract in U.K. or abroad. 10 years' varied overseas experience. Knowledge of several foreign languages. Write Box W.9964, "The Contract Journal."

ENGINEER/SURVEYOR, 24 years' experience civil engineering and building works in England and overseas, SEEKS PERMANENT SITUATION in south, preferably near Brighton, Sussex. All replies answered. Write Box W.9995, "The Contract Journal."

AGENT or SUB-AGENT, Advertiser, now with local authority, SEEKS POST with contractor Main drainage, sewerage, main laying, road work, building. Good knowledge. Keen worker. Free at end of January.—Write Box W.1009, "The Contract Journal."

FOREMAN / AGENT SEEKS CHANGE. All classes roads, sewers, set out, use level. Accustomed sole control. London or Greater. Write Box W.9918, "The Contract Journal."

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YOUNG EXECUTIVE (33) REQUIRES POSITION where eight years' experience in ready mixed concrete, contract management and customer contact could be employed to mutual advantage and advancement. Keenly interested in developing new business or expanding existing organisation. Write Box W.1045, "The Contract Journal."

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DROTT SKID SHOVEL (4-in-1) on BTD6 Tractor, fitted Boughton Winch, available for HIRE or CONTRACT WORK at keen rates.—JAMES COOPER, LTD., 28 Kensington Church Street, London, W.8. Telephone: Western 3412.

WORK REQUIRED

BULK EARTHMOVING, direct contract or sub-contract. Also BULLDOZERS and SCRAPERS for HIRE.—FRANK R. WALLFOLLE, LTD., 126 Wing Road, Leighton Buzzard, Beds. Leighton Buzzard 351.

EXCAVATION, SITE CLEARANCE, DEMOLITION and all PUBLIC WORKS PLANT HIRE. SUB-CONTRACT WORK WANTED. K. MIKOLAY AND SON, Public Works, Demolition Contractors, Plant Hire, Station Approach, Newhaven, Sussex. Telephone: Newhaven 344 and Scaford 2041.

FOR HIRE OR SUB-CONTRACTS, TD18s and BTD6 BULLDOZERS and SCRAPERS, BTDS and KIP TIE WINCH. Experienced operators. Go anywhere.—COTSWOLD HAULAGE, Tanfield House, East Street, Farnham, Surrey. Tel.: Farnham 4049 day and night.

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WANTED, HIRE or CONTRACT WORK for modern fleet of DW21s, D9s and D8s.—Apply: BRODERICK AND RYAN, LTD., 421 Nottingham Road, Ilkeston, Derbyshire. Telephone: Ilkeston 4381/2.

IF TREES, ROOTS or UNDERGROWTH feature in your contract, we would be pleased to quote for their ECONOMIC DISPOSAL. BAGSHOT SAWMILLS, LTD., 32 London Road, Camberley, Surrey. Telephone 14.

ALLEN OXFORD GRADERS for HIRE. GRASSPHALTE, LTD., Hampton Hill, Middlesex. Telephone: Molesey 4343.

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BLASTING by EXPERTS on any project in the U.K.—Consult: CLARKE DEMOLITION AND CONSTRUCTION CO., LTD., Walsinghamfield, Ipswich, Suffolk. Telephone: Walsinghamfield 663.

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EXCAVATION SUB-CONTRACTS, Technical staff available to analyse, programme and price complex projects. Particular attention given to finish and completion. D9, D8, TD18 and TD14 Scrapers, Excavators, Loading and unloading of materials, competent and imaginative supervision for execution of work.—DICK HAMPTON Broadview Farm, Blacknest, Alton, Hants. Telephone: Bentley 2241.

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SAM BOOTH, LTD., Perrymount Chambers, Havardas Heath, Sussex. Tel.: Havardas Heath 1126 and 1258. SUB-CONTRACT or HIRE: D9s, with Bulldozer and Caterpillar 461 Scrapers.

FOR HIRE or CONTRACT, D7s (1959), D4, D5, BULLDOZERS, TRAXAVATORS (1959), TRAFALGAVATORS, etc. all sizes. DUMPERS, PUMPS, etc.—TRACTORS HIRE (CHISWICK) LTD., 300 Chiswick High Road, W.4. Tel.: CHI 8511/2.

GENERAL SITE CLEARANCE with specialised equipment. Awkward trees and roots removed. Explosive experts available. Also Second all other branches of landscape gardening undertaken by: KINGSWAY NURSERIES, LTD., of Ewell, Surrey. Telephone: Ewell 1726.

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SITE CLEARANCE and BULK EARTHMOVING with latest machines. Playing Fields Construction and all allied works.—For your contracts in the Southern Counties, consult: G. S. DANIELS, 387 Winchester Road, Southampton. Southampton 68950.

BITUMINOUS and TARRED MACADAM WORK WANTED within 50 miles Liverpool. Estate roads, paths, car parks, etc.—D. S. O'BRIEN AND CO., Olive Mount, Birkenhead. Telephone: Birkenhead 6695.

WELL-KNOWN company's southern service works, ideally suited to N.W. projects of London, whilst mainly engaged in heavy engineering and mechanical handling equipment, has CAPACITY AVAILABLE for ASSEMBLY and SUPPLY of COMPONENT PARTS, etc.—Write Box X.1040, "The Contract Journal."

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Large company wishes to expand business into new areas and is interested in PURCHASING GRAVEL-BEARING LAND with or without planning permission. Willing to consider PURCHASE of existing BUSINESS. All replies will receive immediate attention.—Write, in confidence, to Box X.9976, "The Contract Journal."

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TOP SOIL.—200,000 cu. yd. available, delivered in large and small quantities. Soil supplied by site in approved cases. LAHAM AND CO. (CONTRACTORS), LTD., Westward House, Guildford Road, Lightwater, Surrey. Tel: Bagshot 2037 and 2400.

A KEEN quotation for your TURFING, SEEDING AND HEDGING CONTRACTS, London and Home Counties.—R. J. ENSTONE AND SON, LTD., Head Office, 34 Alma Rd., St. Albans. (St. Albans 5552/8.)

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Quotations for all branches of landscape work, anywhere in the U.K. C.E. contracts a specialty. WEBSTER BROS., Horsham, Sussex. Horsham 2464.

BUY the genuine CHILTERN TURF.
Instructions for laying supplied free. Guaranteed satisfactory results. Turves 3ft. x 1ft., precision machine cut, weed treated, close mown, £3. per 100 delivered. Let us quote you for leveling and laying with guano seed Chiltern Turf or Grass Seed. Building estates laid-out for contractors. Orders taken weekdays 9-5.—CHILTERN CONTRACTORS, Crymch Hill, High Wycombe, Bucks. Tel: Holmer Green 3127.

TURVES.—Machine-cut 3ft. x 1ft., close-mown, weed-treated, 60/- per 100. Keen trade rates. We would be pleased to quote for your leveling and laying.—E. R. RANCE, LTD., 24 Sheepcot Lane, Watford. Telephone: Garston 2725.

QUICKS, extra quality, fibrous rooted:
12-18in., 16/-; 145/-; 18-24in., 24/-; 200/-; 24-30in., 28/-; 270/-; extra heavy: 30-40in., 35/-; 330/-; special transplanted and cut back: 18-24in., 35/-; 330/-; 24-36in., 40/-; 380/-; OVAL LEAF PRIVET: 12-18in., 22/-; 215/-; 18-24in., 23/-; 275/-; special transplanted bushy: 18-24in., 35/-; 340/-; 24-30in., 50/-; 470/-; 30-36in., 70/-; 670/-; BEECH: 10-16in., 20/- per 100; transplanted 3-year: 18-24in., 50/-; 480/-; 30-36in., 75/-; 700/-; LONICERA NITIDA: transplanted: 18-24in., 45/-; 420/-; 24-30in., 50/-; 450/-; All above prices at per 100 and 1,000. CUPRESSUS LAWSONIANA: 12-24in., 130/- per 100. LAURELS: transplanted: 12-18in., 18/- per doz.; 18-24in., 24/- per doz. All carriage paid for cash with order.—GARDEN BEAUTY PRODUCTS, Wickford, Essex. Telephone 2152.

ROTARY CULTIVATION, GRADING, LEVELLING or EARTHMOVING. ROTARY CULTIVATORS also for HIRE.—JAMES COOPER, LTD., 28 Kensington Church Street, London, W.8. Telephone: Western 3412.

MASSEY-FERGUSON 65 TRACTORS for HIRE, also comprehensive range of ATTACHMENTS, including Tipping Trailers, Loaders, Rotavators, and all Land Cultivation Implements. Turf-cutting Machines, etc. C.E. contractors catered for.—RINGWAY CONTRACTORS, LTD., Horsforth, near Leeds. Telephone: Horsforth 4805.

LET US QUOTE you for SUPPLY of QUICKTHORNS for your trunk road schemes. Keen prices and good deliveries.—ALFRED J. COX (GARDENS), LTD., Stoke Poges, Slough.

SEEDING, TURFING, HEDGING, ROTARY CULTIVATION, etc.
COWELL Agricultural Contractors, Croston Rd., Easington, Leam. Leyland 81243/81849.

WANTED, 8,000 GOOD TURVES.
Telephone: BUCKHURST 6688.

SALES BY TENDER**METROPOLITAN BOROUGH OF SHOREDITCH.****SALE OF AIR COMPRESSOR.**

TENDERS are invited for the PURCHASE of an Air Pump, Ltd., PORTABLE AIR COMPRESSOR UNIT (Model D130), trailer-mounted. The Lister Diesel Engine requires some attention. The unit may be inspected at the Council's Highways Depot, Hoxton Square, N.1, during normal working hours.

Tenders, in plain sealed envelopes, endorsed "Compressor," should be forwarded to the BOROUGH ENGINEER AND SURVEYOR, Shoreditch Town Hall, Old Street, E.C.1, by Noon on FRIDAY, 5th February, 1960.

BOROUGH OF ROMFORD.**SALE OF OBSOLETE PLANT AND EQUIPMENT.**

TENDERS are invited for the PURCHASE of used PLANT and EQUIPMENT, including Concrete Mixers (of a type which cannot now be legally towed on the highway), a Plough, a Motor Mower, and an accumulation of Scrap Iron.

Tender Forms and particulars obtainable on application to the Borough Engineer and Surveyor, Town Hall, Romford. Tenders must be delivered to the TOWN CLERK not later than 29th January.

CITY OF WINCHESTER.

For SALE, Karrier CK3 Moving Floor REFUSE COLLECTION VEHICLE 1949. Inspect at Corporation Depot, Bar End Road, Winchester. Offers, in writing, to CITY ENGINEER, Guildhall, Winchester, by MONDAY, 25th January, 1960.

MANCHESTER CORPORATION.**TRANSPORT DEPARTMENT.**

OFFERS invited for (a) SECOND-HAND BOILERS and (b) OLD WOOD BLOCKS.

Forms of Offer, etc., obtainable from the GENERAL MANAGER, 55 Piccadilly, Manchester, 1. Offers returnable by 10 a.m. on the 1st FEBRUARY, 1960.

MERSEY RIVER BOARD.**SALE OF SURPLUS EQUIPMENT.**

The Board offer for SALE the UNDERMENTIONED PLANT, which is now surplus to its requirements, and which may be inspected during normal business hours at the Board's Head Office, Liverpool Road, Great Sankey, Warrington, Lancs.:

- (1) Jones Super 12 Crane, No. SC12109, Standard Jib Crane, 15ft. lift 12cwt. double rope, 6cwt. single rope, Coburn Engine.
- (2) Boring Rig, Type Picon Shallow Bore Percussion Drilling Rig, Manufacturers: Piling and Construction Co., Ltd. 6-hp. Lister Engine, together with Drilling Equipment.

Offers for this plant should be addressed to the Engineer to the Board at the above address, to arrive not later than 11th FEBRUARY, 1960.

R. E. WOODWARD,
Clerk of the Board

Liverpool Road,
Great Sankey,
Warrington.

GREAT OUSE RIVER BOARD.**SALE BY TENDER.**

TENDERS are invited for the PURCHASE of National DIESEL ENGINE, Type NTE, No. 38700, rating 38-b.h.p. at 250 r.p.m., complete with Starting Air Bottle, Air compressor and Daily Fuel Tank.

This engine may be seen in operation at the Board's Central Depot, Ely, Cambs. For Tender Form and permission to view, apply Engineer to the Board at the address below. Closing date for Tenders, 9 a.m., FRIDAY, 5th February, 1960.

K. M. RODDIS,
Clerk of the Board.

Elmhurst,
Brooklands Avenue,
Cambridge.
13th January, 1960.

GLAMORGAN RIVER BOARD.**DISPOSAL OF PLANT.**

TENDERS are invited for the PURCHASE of the FOLLOWING ITEMS of PLANT, which may be inspected by appointment at the Board's Depot, Old St. Mary Church Road Station, near Cowbridge, Glam. (Tel: Cowbridge 402-).

- (a) Two Mair-Hill 14B Dumpers, with Perkins P6 Diesel Engines. First registered July, 1953.
- (b) One Nuffield Tractor, with Perkins P4 Diesel Engine. First registered Nov., 1951.

Tenders must be received by the undersigned, in plain sealed envelopes, bearing no marks to indicate the sender, and endorsed "Tender for Plant," not later than SATURDAY, 30th January, 1960.

The Board does not bind itself to accept the highest or any Tender.

No Forms of Tender are available.

W. E. WRIGHT, M.A.E.E. M.I.W.E.,
Clerk and Engineer.

Tremains House,
Coychurch Road,
Bridgend, Glam.

INVENTIONS

INDUSTRIAL ENGINEERS of repute invite, in strict confidence, DETAILS of INVENTIONS, with object of manufacturing and world distribution. Write Box K.L.517, "The Contract Journal."

BUSINESS OPPORTUNITIES**ESTIMATES by Britain's Top Free-lance**

Estimator can save you a lot of money. Give you plenty of work. You name it—I'll price it.—CARR, 42 Coombe Road, New Malden, Surrey. Malden 8640.

ADVERTISER'S OWN LARGE LIMESTONE QUARRY.—Firm interested in WORKING the quarry to produce a very large quantity in minimum daily amounts of 1,000 tons of 2½in. and down, please contact Box X.9954, "The Contract Journal."

PROFESSIONAL SERVICES**CIVIL ENGINEERING SERVICES**

Available on fee basis to contractors not desirous of maintaining permanent staff. Set up drawings, surveys, preparation of monthly certificates, final accounts, claims, estimates, etc. Own transport.—Write Box X.9962, "The Contract Journal," or phone ADDISCOMBE 3712.

FULLER HORSEY SONS & CASSELL**AUCTIONEERS AND VALUERS****OF****PLANT, MACHINERY AND****FACTORIES**

Since 1807

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LONDON E.C.3

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FENGATE, PETERBOROUGH,
NORTHAMPTONSHIRE.

FOX AND VERGETTE

will sell by AUCTION

on FRIDAY, 26th FEBRUARY, 1960.

CIVIL ENGINEERING PLANT AND

EQUIPMENT, VEHICLES, WORKSHOP

MACHINERY AND SPARES,

including—

Two 10-ton Henderson Cableways; 16 Excavators (10RB, 17RB, 19RB, Smith and N.C.K.); Three R.R. Mobile Cranes (two 3-ton and one 5-ton); A.E.C. Cotes Cranes; 12 Tractors (D8, D7, D6, D4 and Fowler); TD9 Bulldozer; Two 1 T6 Angledozers; Caterpillar Tractor; Two Howard Trenchers; Chasemore Shovel; Two Scrapers; 14 Compressors (Static and Mobile, 2 6-Ton); 10 Aveling-Barford Dumpers; Six Drayton Dumpers; Two 9 cu. yd. Euclid Rear Dump Trucks; Three Lister Auto Trucks; 12 Lorries (A.E.C., Foden, Thornycroft and Bedford Artic.); Ford 1,000-gallon Tanker; Electric Eel Truck; Seven Godfrey Blowers; 20 Mixers (12S, 10 T7 and 14 T10); MISCELLANEOUS SPARES and WORKSHOP MACHINERY, including Lathes, Bench Drills, Milling and Grinding Machines.

Catalogues, new in course of preparation, will be available from FOX AND VERGETTE, 16 Priestgate, Peterborough (Telephone 4261/2).

BANBURY, OXON. SPECIAL SALE OF MECHANISED CONTRACTORS' PLANT AND VARIOUS SPARES

including—

Priestman Mk. IV Cub, with Skimmer and Backsaver Equipment; Buckeye Excavator with Cab; Buckeye Excavator; Cleveland Trencher 95, fitted with Thornycroft TR6 Diesel; Allen 25 Excavator, fitted with Lister Diesel; Priestman Mk. III, T.V.O., with Dragline and Backsaver; Toledo Backhoe; Priestman Fordson Major, 1954, fitted with Dinkum Digger and Bulldozer Equipment; David Brown T30 Bulldozer; Bray Loader, Perkins P6 (1950); Chasemore, with three equipments, T.V.O. Fordson (1948); Benford Dumper; Diesel 12-ton Low-loader, 1947; Fordson Major Diesel, with Hydraulic Equipment, Blade and Bucket, late 1955; Ditto, with Skid, Blade and Bucket, late 1955; Three T.V.O. Fordson Majors, with Hydra Power Unit; Fordson Diesel Wagon; Fordson Petrol Wagon; Fordson County Crawler Tractor, fitted with Diesel P6 Engine; Massey Harris 744 Diesel Tractor, fitted with Perkins P6 Engine; T.V.O. Fordson Major Tractor, with DCA half-tracks, overhauled and resprayed; New Type Fordson Diesel Major, bare Tractor; Ferguson FE 35 de luxe Tractor, fully equipped, overhauled and resprayed; Fordson Major Tractor, fully equipped, overhauled and resprayed; W.D. Bedford 3-ton Lorry; C.P.T. Compressor, 1955, 165 cu. ft., Ruston Engine; Two Brownmoad Mobile Compressors, 199; Arc Welding Set; Lighting Set (Gen.); quantity Timber; various Site Office; quantity of Spares, will be held at YOUNG'S AGRICULTURAL TRACTOR and IMPLEMENT DEPARTMENT PREMISES, FOUNDRY SQUARE, WARWICK ROAD, BANBURY, by kind permission of Youngs Garage of Banbury, Ltd., on TUESDAY, FEBRUARY 2nd, 1960. Sale to commence at 11.30 a.m. No catalogues.

MIDLAND MARTS, LTD.

30 High Street, Banbury. Telephone 2274.

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Sale to commence at 11.30 a.m.

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REX "Adjusta-Wate" Moto-Mixers make bigger profits for ready-mixed concrete operators. They carry greater payloads and their fast water entry and speedy charge-mix-discharge cycle clips minutes off delivery times, enabling more trips per day to be made. Let "REX" bring a new economy to your ready-mixed concrete deliveries.



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Advertisements received too late for Classification

COUNTY BOROUGH OF SOUTHEND-ON-SEA.

Contractors interested in submitting a TENDER for the MAKING of Seven PRIVATE STREETS (Group V) and incidental works in connection therewith, should submit their names, together with a deposit of £2, before 3 p.m. on WEDNESDAY, 27th January, 1960, to the Borough Engineer and Surveyor for inclusion on a list of contractors from whom Tenders will be invited. The deposit will be refunded on receipt of a bona-fide Tender and/or the return of all loaned documents.

Scaled Tenders, addressed to the undersigned, and endorsed "Private Street Works—Group V," are to be delivered to this Office by 3 p.m. on a date to be specified, and no Tender received thereafter will be considered.

No Tender will be received except in the special envelope provided, which shall not bear any name or mark indicating the sender.

The Corporation do not bind themselves to accept the lowest or any Tender.

ARCHIBALD GLEN,
Town Clerk.

Municipal Buildings,
Southend-on-Sea,
11th January, 1960.

CITY OF STOKE-ON-TRENT.

REDEVELOPMENT, LONGTON HALL ROAD HOUSING SITE—STREET WORKS.

The CORPORATION invite TENDERS from civil engineering contractors for CARRYING OUT WORKS on the ABOVE HOUSING ESTATE, area approx. 20 acres, comprising the Redevelopment and Construction of certain preliminary Street Works, Sewer and incidental works. Drawings and Conditions of Contract may be seen and Specification and Bills of Quantities obtained from the City Engineer and Surveyor, Town Hall, Stoke-on-Trent, on payment of £3 deposit, which will be returned if a bona-fide Tender is received.

Tenders and priced Bills of Quantities (in the separate envelopes provided) must be delivered to the undersigned by 12 Noon on WEDNESDAY, 3rd February, 1960.

HARRY TAYLOR,
Town Clerk.

CITY OF GLOUCESTER.

TENDERS are invited for the SUPPLY of the FOLLOWING GOODS and SERVICES during the year commencing 1st April, 1960—

- (1) Concrete Paving Slabs.
- (2) Concrete Kerbs and Edging.
- (3) Granite Chippings.
- (4) Refined Tar and Bituminous Compounds.
- (5) Clean and Treated Road Stone.
- (6) Gravel and Sand.
- (7) Motor Hauling.
- (8) Castings.
- (9) Dustbins.
- (10) Protective Clothing.
- (11) Brushes.
- (12) Cement.
- (13) Petroleum Products.
- (14) Lubricating Oils.
- (15) Ready Mixed Concrete.

Forms of Tender may be obtained on application to the City Engineer and Surveyor, 21 Eastgate Street, Gloucester, and sealed Tenders, endorsed "Tender for Miscellaneous Materials," are to be delivered to the undersigned not later than WEDNESDAY, 3rd February, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

A. G. W. BOGGO,
Town Clerk.

Guildhall,
Gloucester.

STRUCTURAL or CIVIL ENGINEER with experience of bulk handling of granular materials REQUIRED to take charge of rapidly expanding department engaged in construction of steel bulk storage plants. Exceptional opportunity for man with leadership, administrative ability and drive. Age 30 to 40. Salary £1,200, minimum plus share of profits. Pension scheme. —CONDER ENGINEERING CO., LTD., Winchester, Hants.

ALLEN FAIRHEAD AND SONS, LTD. Invite applications from COST and BONUS SURVEYORS who have had previous experience of systematic bonusing and cost control on contracts.—Applications, stating age, experience and salary required, should be forwarded to The Chief Surveyor, ALLEN FAIRHEAD AND SONS, LTD., Enfield, Middx.

JAMAICA: TECHNICAL SALES REPRESENTATIVE REQUIRED for leading distributors of earthmoving and allied equipment. Sound technical knowledge and wide practical experience essential. Applicants should be single, between ages of 26 and 44. Excellent prospects.—Write in strictest confidence giving full details of previous employment and type of equipment handled. Box V.1047, "The Contract Journal."

TOWER CRANES: GEORGE COHEN, SONS AND CO., LTD. REQUIRE for their tower crane department a technically minded young man to deal with after sales service and spares, including preparation of parts books, service manuals, etc.—Apply, stating age, experience and salary required, to the Personnel Manager, 600 Wood Lane, Shepherds Bush, W.12.

ASPHALT AND TARMACADAM SUPERVISOR REQUIRED for Midlands. Only men possessing drive and all-round experience of surfacing work from commencement to final account stage need apply. Estimating experience an advantage. Vehicle provided and superannuation scheme available to successful applicant.—Write Box V.1038, "The Contract Journal."

PLANT HIRE company in South Wales REQUIRE OUTSIDE REPRESENTATIVE. Experience with Caterpillar and Ruston machines preferred. Give full particulars, including salary required, and previous experience, in confidence, to Box V.1039, "The Contract Journal."

GENERAL FOREMAN REQUIRED for civil engineering contracts. Applicants must have extensive experience on reinforced concrete structures, roads and sewers. Preference given to younger applicants interested in planned contracts. Initially West London.—Reply, stating age, salary required, full details of experience, to Box V.1024, "The Contract Journal."

GOOD WORKING FOREMAN REQUIRED, with comprehensive knowledge of public works contracts, road works, kerbs and gullies, etc.—Write in first instance, stating age, experience and salary required, to Box V.1015, "The Contract Journal."

WANTED by small contractor, 10-ton Diesel ROLLER; also good Dinkum DIGGER. No fancy prices.—Full details: D. S. O'BRIEN AND CO., Olive Mount, Birkenhead, Cheshire.

CITY OF LEEDS.

HIGHWAYS DEPARTMENT.

The HIGHWAYS DEPARTMENT of the LEEDS CITY COUNCIL invite TENDERS for:—
KERBING, TARMACADAM FOOTPATHS and CARRIAGEWAYS in the FOLLOWING PRIVATE STREETS:—

East Moor Avenue (Footpath only—north side),
Falkland Grove,
Farm Mount,
Sholebrooke Street (Part).

Forms of Tender and Bills of Quantities may be obtained upon payment of a deposit of One Guinea, which amount will be returned upon receipt of a bona-fide Tender. Plans, Specifications and copies of the documents forming the contract may be inspected upon application to the Highways Engineer, 155 Kirkstall Road, Leeds, 4.

Tenders will be considered only when submitted, sealed in the envelope provided, endorsed "Highways Department—Tender for Contractors' Works," and not bearing any name or mark indicating the sender.

Tenders must be delivered at the Town Clerk's Office (Committee Department), Room 57, Civic Hall, Leeds, 1, not later than 10 a.m. on THURSDAY, the 4th February, 1960.

The lowest or any Tender will not necessarily be accepted.

W. J. HISCOCK,
Highways Engineer.

January, 1960.

CARSHALTON URBAN DISTRICT COUNCIL.

TENDERS are invited for the SUPPLY of approx. 26 tons of DOMESTIC COAL, 1¼ tons ANTHRACITE, 4 tons SMITHY PEAS, and 220 tons COKE during the year ending 31st March, 1961. Particulars and Forms of Tender may be obtained from the undersigned. No Tender will be accepted unless in a plain sealed envelope, addressed to the Chairman of the Council at these Offices, and delivered not later than 12 Noon on FRIDAY, 5th February, 1960. The envelope must be endorsed "Tender for Coal and Coke," but must not bear any name or mark indicating the sender.

The Council do not bind themselves to accept the lowest or any Tender.

C. H. DURRANT,
Clerk of the Council.

District Council Offices,
The Grove,
Carshalton.

URBAN DISTRICT COUNCIL OF COLNE VALLEY.

ANNUAL TENDERS, 1960-61.

TENDERS are invited for the SUPPLY of the UNDERMENTIONED MATERIALS during the twelve months commencing the 1st April, 1960:—

- (1) Cement.
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Forms of Tender, General Conditions and Specifications may be obtained on application to the Surveyor to the Council, Municipal Offices, Care Lane, Slaitwhaithe, Huddersfield, on receipt of a stamped addressed envelope. Please state the reference numbers of the items for which you wish to tender.

Tenders, in plain sealed envelopes, endorsed "Annual Tenders, 1960-61," and bearing no mark or indication of the sender, must be delivered to the undersigned not later than FRIDAY, the 4th March, 1960.

J. W. LOMAS,
Clerk of the Council.

Town Hall,
Slaitwhaithe,
Near Huddersfield,
11th January, 1960.

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Closing date: 27th JANUARY, 1960.

BOROUGH OF FINCHLEY.

BOROUGH ENGINEER AND SURVEYOR'S DEPARTMENT.

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Applications to: M. SPENCER, M.I.C.E., M.I.Mun.E., 294/296 Regents Park Road, Finchley, N.3, by not later than 30th JANUARY, 1960, with the names of two referees.

R. M. FRANKLIN,
Town Clerk.

Municipal Offices,
Finchley, N.3.

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DISTRICT BUILDING INSPECTOR—POST NO. 182.

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Candidates must have a good knowledge of the building trade, be accustomed to plans and drawings, and preferably hold the Building Inspector's Certificate of the Institution of Municipal Engineers.

No housing accommodation can be provided. Approved Forms obtainable from the City Engineer and Surveyor, Town Hall, Bradford, 1, with three testimonials, must be received by the undersigned by 13th FEBRUARY, 1960.

HENRY PATTEN,
Town Clerk.

Town Hall,
Bradford, 1.

AREA AGENTS REQUIRED to fully control, both commercially and technically, all types of industrial services pipework contracts for the chemical, oil and steel industries. Only experienced agents will be considered. Salary range £1,200-£1,500. Superannuation scheme compulsory. Write Box V.1014, "The Contract Journal."

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LAWRENCE MCCARTHY

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PLAN WELL AND PAY PROMPTLY

FROM recent inquiries made by this Journal it would seem that there are growing delays between the submission of a firm-price tender and its formal acceptance; and even longer delays in the settlement of final accounts. In both cases local authorities are the principal culprits. Neither of these complaints is new; in fact, both have been a source of much annoyance and, worse, loss of money to contractors for many years.

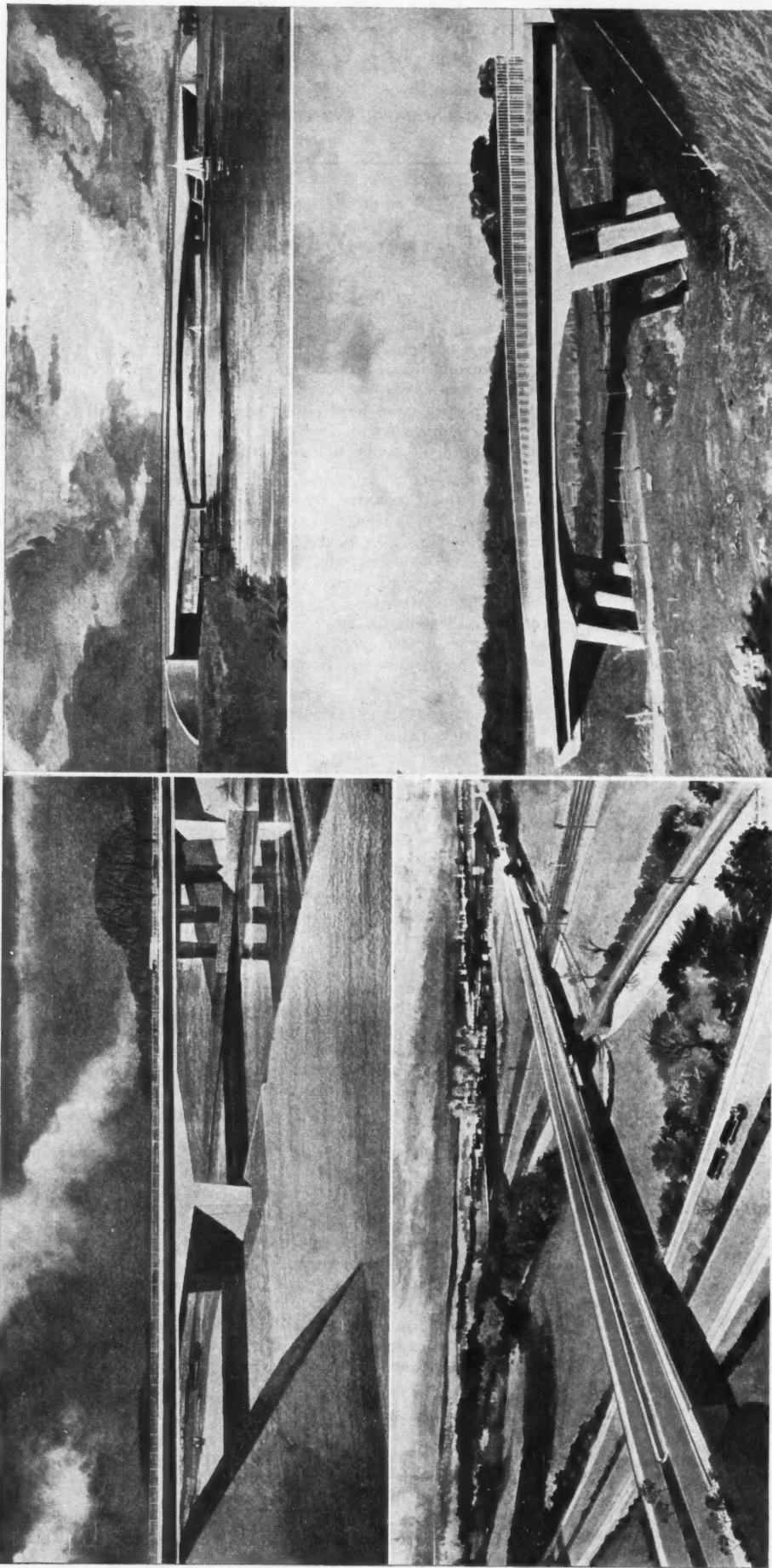
On the first the Code of Tendering Procedure recently published by the Joint Consultative Committee of Architects, Quantity Surveyors and Builders has this to say. "It is reasonable to expect that each tenderer will be anxious to know whether his offer is the lowest. This information will be important to the successful tenderer, who will require the earliest intimation in order to settle to the best advantage any sub-contracts for materials and services. The knowledge that his tender is not being considered may influence a builder to tender more keenly for other work. Conversely, when a firm believes that a number of its tenders are being considered, it may be reluctant to tender elsewhere. The rapid notification of results of tendering should be considered as a public duty."

This is clear enough, but the main difficulty is in impressing its importance on building owners and their representatives. The recent decision of the Joint Consultative Committee to send a copy of their Code to every local authority in the country should help. It is obviously essential to the efficient organisation of their work that contractors should know at the earliest possible moment exactly how they stand, and building owners, local authority and private, must somehow be brought to realise that long delays in the acceptance of tenders tend to lead to higher initial prices to cover unknown risks, or to claims for extra costs due to working under different conditions from those anticipated in the first instance. A contractor cannot be expected to make a prompt start on a contract unless he has a reasonable length of time in which to place his orders for materials and to organise his work properly.

Prompt payment is equally important. It has been calculated that at any one time something like £100m. is owing to contractors. This seems to be a conservative figure, but whether it is or not probably no other industry is saddled with such a huge credit burden. Sometimes the blame is placed on sub-contractors failing to submit their accounts promptly; sometimes local authority finance officers are accused of exceeding their duties of arithmetical check; it has even been argued that the amount finally due to a contractor is often so small as to make it hardly worth his while to chase it up if, as is likely, he has further urgent work on hand or coming forward. No doubt there is a lot to be said for and against each of these points, but the fact remains that the longer contractors have to wait for their money the more expensive building becomes.

Important as the two factors mentioned are, an even greater impediment to efficient building operations today is the extent to which variations are introduced in the course of contracts. Many of these variations could and would be avoided if those making them were more acutely aware of the disruption caused to a contractor's programme by changes made in agreed plans and the sequence of work on the site. What so often makes matters worse is that the benefits resulting from variations are often not worth a half of the expense and delay they cause.

It is for these reasons that the construction side of the industry particularly will welcome the news that the Joint Consultative Committee is considering following up its Code of Selective Tendering Procedure with a new publication setting forth a Code of Job Procedure. This document, when published, should bring home the cost of variations and related matters to those who, after all the years of advice and exhortation, still like to think that plans for building operations are nothing more than a rough draft of what is required, and behave accordingly.



PRESTRESSED CONCRETE BRIDGES

(Top left) Artist's impression of Medway Bridge on Maidstone By-pass

(Bottom left) Wolvercot Viaduct, Oxford By-pass

(Top right) Winthorpe Bridge, Newark By-pass

(Bottom right) Bevan Hill Bridge, Ross Spur Motorway

MINISTRY ENGINEER ATTACKS BRIDGE DESIGN CRITICS

Prestressed Concrete Group's Meeting

OPENING a meeting on prestressed concrete bridges held at the Institution of Civil Engineers last week, Mr. H. C. ADAMS, assistant chief engineer (bridges), Ministry of Transport, referring to recent criticisms of bridge design in this country, said he would try to restore some sense of proportion after the distortions which he felt had left their image on the public mind in the last few months. The consulting engineers of this country were second to none in the world, they did a great volume of work all over the world, and their interests were being undermined by this criticism which spread itself from one side of the globe to the other.

The meeting was arranged by the Prestressed Concrete Development Group, Mr. C. W. Hamilton, the president-elect of the Group, presiding. Welcoming the gathering, he said the members of the Group were very pleased and gratified to have present so large and distinguished an audience for what he was sure would be a most interesting and instructive day.

It was the turn of British engineers to show what a remarkable contribution they had made to the progress of prestressed concrete construction over the past ten years or so, not only in this country but also overseas.

Inviting Mr. H. C. Adams to formally open the meeting, the chairman said he was the official observer to the Group for the Ministry and he had done a tremendous lot in the development of prestressed concrete in this country. He had been of great help to the Group as an official observer and had been a tower of strength in the Ministry in ensuring that the ideas in which all the members of the Group believed took their rightful place; also his services had been of inestimable value to the Committee which had been working on the standards for bridges.

Reply to Critics

Mr. H. C. Adams said the Papers that would follow would deal closely with prestressed bridges; therefore he did not propose to deal with those at length, but rather to try to take stock of the present position in this country and thereby, as it were, to set the scene for what was to follow throughout the day; also to try to restore some sense of proportion after the distortions which he felt had left their image on the public mind in the last few months. There were in the audience architects, surveyors and engineers from highway authorities. He hoped they would forgive him if he explained the general set-up in this country, because it was essential that people should understand it when talking of bridge design.

The highway system in this country was split up into various classes of roads. There were the trunk roads (which included the motorways), classified and unclassified roads. For the trunk roads the Ministry of Transport was responsible 100 per cent. financially. In the main the county councils and some other highway authorities acted as the Ministry's agents in carrying out the work on the bridges. For the classified road system the highway authorities—again mainly the county councils, through their county surveyors—carried out the work in their own right. Here again the Ministry took a large and generally a major share in the cost, its percentage of cost being 50 for class 3 roads, 68 for class 2 and 75 for class 1. The Minister had to approve new works in the classified road or trunk road systems.

Broadly, the highway authorities were capable of handling the bulk of the work which had to be done with the present rate of building in this country. Their work was supplemented to an important extent, although in bulk it was not so large, by that of consulting engineers. But owing to the comparatively small volume of work which was taking place—thank goodness it was growing—the number of consulting engineers engaged was comparatively small. He emphasised that point because he knew of scores of first-class consulting engineers who could handle our bridge work and who had not yet had the opportunity to engage in it, simply because there was not enough work to spread over the field at present. He hoped that situation would change; it could change only by a big increase in the volume of bridge work in the country.

In order to take stock of the present position, one must start at the bottom—and, judging from what he had seen in the Press during the last few months, that was pretty low! It was not his object to inquire into the reason for this Press agitation, but merely to start from that position. The bulk of it, he believed, and probably most of his audience would recognise, was completely uninformed. However, a proportion of it came from sources where he thought there should be more understanding. Some of it came from qualified engineers. As an example of it, he quoted a short extract from a long letter which appeared in a technical journal; the whole tone of the letter was in the same sense, so that he was not doing the writer an injustice by quoting: "The Ministry of Transport's views on bridge design are a generation behind the times." Certainly, he said, the writer had got it across, leaving no doubt about what he meant. He thought that was fairly typical of what had appeared in the Press on a number of occasions during the last four months.

Development in Recent Years

Running through the activities of the last generation, he said that 30 years ago at the Ministry he had had the greatest difficulty in getting acceptance in this country of the idea of the vertical beam abutment. It was the practice in those days to build tremendous abutments in mass concrete, thick abutments; the vertical beam abutment was only about 1ft. or 18in. thick. There was very great opposition in this country and the Ministry was considered to be taking undue risks. As a result of its use, however, vast sums of money were saved in the years that followed and the vertical beam abutment came to be accepted as a recognised thing.

Coming back to the letter which he had mentioned earlier, Mr. Adams quoted another statement: "For many years the Ministry insisted on the extensive transverse prestressing of composite slab bridges, which is quite unnecessary, as has been proved by tests." To check on that, the Ministry was able to locate records for a number of bridges. A few of the records they had not been able to trace, but they had managed to find 31 relating to the period prior to 1956. Of that 31, seven were prestressed transversely, transverse mild steel reinforcement was used in 18. He had not yet been able to get hold of the plans for the remaining six. But there were sufficient cases to show that the statement quoted, even if applied to the position as it was nearly four years ago, was quite untrue.

Immediately before the last war, slightly over 20 years ago, the Ministry had arranged for and had built a number of pre-

stressed bridge beams throughout the country to hold ready for emergency in the event of war. They were stored for emergency use during the war, but had not to be used then, and they were used in bridges in this country for emergency in peacetime, except for a few of the longest beams, which were turned over to the Cement and Concrete Association for testing in the course of its research work on long term relaxation losses in the steel.

Throughout the whole of the period since those beams were made, with the exception of the war period, the Ministry had kept in the closest touch with the Association and the Prestressed Concrete Development Group and had taken advantage of the vast help they had given. He was glad to pay tribute to their work because they had done more for the progress of bridge design in this country in the past 10 or 15 years, to his mind, than had any other organisation, and they had given tremendous help to the Ministry, which was only too pleased to work wholeheartedly with them and to take advantage of all the help they were willing to give and were continuing to give.

Another point was the modern use of rubber bearings in bridges. The Ministry had encouraged their use because it thought it was a good thing to do, but it was criticised from some sources for going a little too fast on this; it was accused of being "ahead of our time."

He did not know the exact number of prestressed concrete bridges in this country, but there were more than 400 prestressed concrete highway bridges built here up to the present time.

The Ministry had played a major part in the construction of the bridges in Great Britain. A few years ago we had reached a stage in prestressed bridge design in which we were well ahead of the United States. Now the Americans had overhauled us in respect of numbers; of course they had, but they had made a late start.

His Department had tried to remove the distortion in the public's mind to some extent by an exhibition of photographs, designs, perspectives, etc., of prestressed concrete bridges already built, or under construction or about to be built. At first it was arranged in the House of Commons for Members of Parliament to assist in the answering of one or two questions raised in the House at the time, and it was considered so valuable that it was transferred to the building of the Institution of Civil Engineers; with the kind co-operation of the Institution, the exhibition was on show there for between two and three weeks. He was sorry it did not get the same publicity in the Press as had been given to adverse criticisms in connection with bridges.

Some might say that the Ministry itself was not responsible for all these things. However, the Ministry, the county surveyors and consulting engineers who had taken part in bridge work stood together in this matter; if bridge design were behind in this country it was fairly and squarely on the Ministry of Transport plate.

Life of Bridges

Mentioning one or two of the problems and aims in the bridge field, he said he had found there was quite a misunderstanding about what the life of a highway bridge should be. The position was fairly simple. There were in this country more than 100,000 highway bridges. Apart from new construction, which added to that number, the reconstruction of the old bridges at the present time was at the rate of something like 50 bridges per annum. Of course, that

rate would have to be stepped up. But from a very simple arithmetical calculation it was quite clear that, however much we stepped it up, bridges had to be built for permanency. It was of no use constructing a bridge for 100 years' life and reconstructing; it just could not be done.

That gave an idea of the Ministry's approach to the bridge problem. We must see that the bridges were comparatively maintenance-free and that they were built to last. Naturally, anybody who had the overall responsibility for these bridges must take to some extent a conservative view. But—he had in mind stresses, loads and everything else—sometimes we had to go forward. That was why the Ministry was wholeheartedly behind the work of the Group, which offered tremendous possibilities.

Qualities Sought

What were the qualities sought in a new highway bridge? First, of course, was service to traffic; that was fundamental, it was the very object of the building of a bridge, it had to form a part of the highway. It should be permanent and maintenance-free. The most important feature perhaps was that of the foundations. If he had to size up the calibre of a bridge engineer he first looked at the foundations of that engineer's bridge, because a glance at those would interpret the man almost completely. Aesthetic qualities were also very important. He was not thinking in terms of ephemeral values, which changed with opinion from one year to the next; in architecture and music we saw the lighter and unimportant elements superimposed on the more permanent values, which latter we must never lose sight of. He was speaking in terms of the permanent aesthetic values rather than the frills.

In this connection Mr. Adams paid tribute to the help which his Department had received from the Royal Fine Art Commission. By and large, he said, the Commission had had a tremendous beneficial influence on bridge design in this country over the past 10 years and they were continuing to give tremendous help. He had not the slightest doubt that the appearance of bridges in this country is now very much better than it was, and he hoped that an understanding of that was spreading throughout the country.

Economy was very important, but not to be obtained at the sacrifice of these other important factors. Bearing in mind the length of time a bridge had to last, hundreds of years, to pare off a small amount of its cost was of no value if we were to lose it on maintenance later. We must be very careful about that.

Standardisation

A subject which had been very much in the minds of bridge engineers over the last few years was that of standardisation of bridge design, and it was a difficult one. It must not interfere with the character, the aesthetic qualities, of a bridge; it was found that when we discussed standardisation we were not always thinking of the same thing.

Professor Lynn, of California, came to this country at the instance of the Group, and at the end of the lecture he delivered he was asked questions on standardisation. He replied that of course we were interested in standardisation. But what he had meant by "standardisation of bridges" was the standardisation of shuttering for precast beams, i.e., a standard form for the shape of the bottom flange, a standard form for the web, but not the complete shuttering because the depth of the beams would have to change with the span. So that if we could get a shape for the bottom three-quarters of the beam which would allow it to be built up with the varying depths, that was about as far as we could go.

At the present time that was probably the uniform opinion in this country; and he believed that at that meeting of the Group a little more would be said about standardised beams, because it was some-

thing which the Group and the Cement and Concrete Association had been working on, in close touch with his Department, for some months, and they had made considerable progress. In dealing with it we had to consider how the results of this research could be used, with the increase in motorway construction and the building of motorway bridges. It was more important than ever before because we had standard widths. Unfortunately, well over 50 per cent. of our bridges were skewed, which introduced another factor. It was often said that with a skewed bridge we could have the beam standards varying in length by 5ft. at a time. We could not do that, however, because on a motorway we had to line up the faces of the abutments throughout the road; also the faces had to be parallel with the road. These were problems which the engineer must consider when making use of standard beams. He had found that more than 80 per cent. of our bridges were 50ft. in span, and that offered something in the way of standardisation. By far the bulk of our bridges fell into the narrow range between (say) 35ft. and 50ft.

The last quality, but by no means the least important, that we sought in our bridges was quality of workmanship. It would be realised how important it was with prestressed bridges that the quality of the workmanship, the impervious nature of the concrete and the grouting should be beyond all doubt. That was where the contractor's contribution lay, not in criticising the overall design of a bridge but in doing a good job, ensuring that he gave first-class workmanship; there was plenty of scope for him there, and the bulk of our contractors were fulfilling their obligation in that respect admirably.

Who is the Judge?

What was the true position in this country at the present time? Mr. Adams suggested that all the agitation in the Press got us absolutely nowhere. Who was to be the judge in these matters? Certainly not the public generally, because they had not the slightest idea of how a bridge should be designed and what were the important factors in the design of a bridge. But the public were very interested and the Press were only too glad to take advantage of all that came to them; it made a story, but the public could not judge and it must be wrong that engineers should appeal to the public to try to make them judge of the position.

The design of a bridge was much more than merely a few calculations about the strength of a beam or an abutment wall, in spite of what some learned professors might have said. Bridge design required an overall knowledge and understanding of it from the foundations upwards. The engineer had still to be thoroughly trained and experienced, so that he could take advantage of the use of the standardised beam which would be offered to him with all the other tools he had at his disposal. He had to be the judge of the designs for the bridges we built. In the end it was for posterity, but there must be somebody who understood the whole field and not just one small part of it; it could not be somebody who got rid of his responsibility when he had collected his fee. The responsibility remained to the present generation and to the generations which followed.

That sense of responsibility was most important. Bridge engineering was a great profession and we must develop and preserve in it a sense of responsibility and proportion.

Again on the question of public criticism which was unjust, he said that within a very short time of it developing he had heard from America, Australia, Southern Germany and Sweden that such criticism was being reproduced in those parts of the world; and, of course, it must have been reproduced in many other parts. The consulting engineers of this country were second to none in the world, they did a great volume of work all over the world, and their interests were being undermined by this criticism which spread itself from

one side of the globe to the other. He commended the point to consideration because it was a matter of the utmost importance from the point of view of the interests and the very livelihood of our country.

The chairman, in thanking Mr. Adams for his address, said it was very pleasing that the Group had given him the opportunity to put the matter into its right perspective.

BRIDGES IN THE BRITISH ISLES

Introducing Mr. Goldstein, the first lecturer, the chairman said he was a partner in R. Travers Morgan and Partners. Another partner in that firm was Lt.-Col. Kirkland, who had served with very great distinction as President of the Group.

It was of interest that Mr. Goldstein had accompanied the Minister of Transport on his recent tour of Germany, and one was confident that there could have been no one better able to put the points on concrete bridges to the Minister.

Mr. A. GOLDSTEIN, B.Sc.(Eng.), A.C.G.I., D.I.C., M.I.C.E., M.I.Struct.E., M.I.H.E., M.Cons.E., first apologised to those engineers in Great Britain whose designs he was not featuring in this short talk, and thanked those who had very considerably assisted him by providing details of their designs, lantern slides and the like, which enabled him to talk on a fairly wide basis. He wanted to emphasise design rather than construction, since the meeting would be interested more in what kinds of bridges there were than in the technical details.

We had a tradition of civil engineering design in this country, he continued, which was second to none, and he contended that against any criticism. Equally he maintained that engineers in this country could, given the opportunity, design bridges as well as, and indeed better than, engineers elsewhere. Unfortunately, however, it was only too poignantly true that for years the opportunities to do so were very limited, and it was only in the last year or two that things had opened up.

Illustrating his talk by designs of bridges or projects under construction, he said that most of those bridges would be of medium-size spans and some of smaller spans. It was often difficult to judge the aesthetic properties of an extremely large structure. Who was to say that the Forth Bridge was large and beautiful, or merely large?

In considering the design of bridges and their aesthetic qualities he felt that one must differentiate between unintentional and intentional monumentality. Unintentional monumentality was brought about when the purpose rather than the effect was kept in mind by the designer; intentional monumentality was shown by a designer who, by pretentious symmetry or some other means, assigned importance to his work which it often did not possess. It was well that designers approached their subject in a frame of mind having a proper degree of humility. Certainly in talking of bridges in Britain that aspect was very much in his mind.

Among the many bridges he illustrated was one with cantilever suspended spans, 70ft. side spans and 160ft. main span. A feature of interest in the construction was that the formwork for the piers was moulded with P.V.C., and he thought there was a lot of scope for development in that kind of technique.

Another was a bridge with a very simple span of 106ft. It was designed with no pretension and it looked very well. Rubber bearings on the abutments looked very nice.

A very interesting aspect of one bridge was that the supports of the piers might be termed "multi-leg portals." It had a very pleasing flush appearance underneath. The articulation of the structure was by flexure of the columns. The bridge had a general light and very commendable appearance.

Speaking of a bridge with a 203ft. central span and 75ft. anchor spans, having an overall width of 79ft. 6in., again a double

cantilever suspended span design, Mr. Goldstein pointed to its very pleasantly curved masonry-faced abutments.

Regarding some viaduct designs, he said that over the total length (which in one case was 900ft.) there was only one expansion joint, in the middle.

In a design proposed for one bridge over a trunk road there was no central support, which he considered was good for the motorist and for the onlooker.

A design, one of three alternatives for a river bridge which were out for tender, had a main span of 500ft., which, if that design were adopted, would be the largest span in this country. It had expansion joints. The piers were cellular. In another river bridge design, with an overall length of just over 2,000ft., the spans generally being 120-140ft., the articulation was interesting, since the bridge was held at each abutment, over the 2,000ft. there was one expansion joint, and movement was provided for by rollers under the piers.

Another bridge, with a main span of 120ft., had "V"-shaped supports, and Mr. Goldstein considered the result to be very successful—a graceful design.

Points in Recent Designs

The illustrations, he said, represented fair credit both to the profession and the industry. Among the points which appeared to be given a great deal of attention in recent bridge designs were the following:—

(1) The problems of detail and lengthy analysis were very readily grasped, since it was appreciated that methods of calculation, and in particular the computer techniques, provided a great aid in analysis.

(2) Much attention was paid to the proper articulation of bridge structures. This applied particularly to items such as hinges, rubber bearings, etc., and to the corresponding expansion joints in the deck; but with regard to the latter there was considerable scope for improvement.

(3) There had been a considerable increase in the number of continuous prestressed concrete bridges.

(4) More attention was being paid and should continue to be paid to attaining good concrete finishes, often by means of featuring shutter marks without any additional special measures.

(5) Designers often achieved a clarity of form and function which was happily left unembellished.

(6) Proper attention was being given to the question of subsequent maintenance, noticeably in such elements as balustrading and expansion joints, which were often troublesome features.

(7) Transverse reinforcement was generally considered more economical than transverse prestress.

(8) There was as yet a problem due to the fact that the number of civil engineering contractors who had proper experience of prestressed bridge construction was of necessity rather limited. This made the estimating of costs difficult and indeed produced tenders at times which did not adequately reflect the realistic cost of the work. Time and the greater amount of work done would be the cure for this problem.

A Challenge

The civil engineering industry and profession, he added, was faced with a considerable challenge over the next period of years. There was little doubt that more and more work would have to be done and that prestressed concrete would enjoy ample use. It was entirely proper for the public to expect this work to be done well; they would not use as a yardstick a rough and ready comparison with the work done abroad; it must be appreciated that ad hoc comparisons of one or two bridges in this country with one or two particular instances abroad were valueless, whichever way the results turned out. Any comparison must be made on a broad basis, and on this basis he had not one iota of doubt that the designers and contractors of this country would prove worthy of their

heritage and capable of meeting the challenge.

PRESTRESSED CONCRETE BRIDGES ABROAD

This aspect was dealt with by Mr. Harris, who, said the Chairman, had very wide experience in prestressed concrete, being one of the pioneers of its development. He was now vice-president-elect of the Group, chairman of the development committee, and was responsible for a lot of the work the Group was now doing.

Mr. A. J. HARRIS, B.Sc.(Eng.), M.I.C.E., M.Cons.E., said that from his friends overseas he had received photographs of beam bridges, slab bridges, and here and there an arch; he set out to summarise certain general tendencies and to devote a little more time to two or three which seemed to be of peculiar interest.

Summing up the features which sprang to light in the sort of photographs and drawings and so on which he had received, he said that prestressed concrete beams were used very widely. The tendency in their design was to make them as deep as possible and as widely spaced as possible. There was a tendency towards larger and larger tendons. He had discovered a frontier in Europe north of which there was a quite remarkable degree of precision in estimating the force at the end of the tendon; south of that frontier there was quite an appreciable degree of precision in estimating the force at the middle of the tendon. Some of the German people included a load cell at the end. If it could be made electronic, so much the better. Very little attention seemed to be paid to friction loss, and he found that difficult to understand.

Illustrating an approach to a bridge, he said that very seldom were the beams cast in position; and in another illustration he showed a rather neat erection which was used to launch the beams into position. Arch bridges fell into a type which he also showed, with the inclined leg at the end reaching down to the support, and a very slender beam in the middle. The technical fact behind this scheme was that prestressed concrete was exceedingly strong in bending and it was unnecessary to seek the funicular line with the same degree of compulsion as with reinforced concrete.

Little to Learn

Having thus illustrated the ordinary sort of run-of-mill stuff which the vast majority of bridge engineers were doing overseas and which he supposed nearly all of us in this country were doing, he felt that in connection with that type of structure there was not much that we had to learn; there was much that we could study and could probably absorb with profit, but there was relatively little in relation to the whole, except on minor details, in which we could really see an advantage.

There were two bridges on which he concentrated, one being of 300ft. span, and which was triangulated; the second was a prestressed concrete suspension bridge recently completed in Belgium. They had something novel.

300ft. Span Bridge

Illustrating the 300ft. span bridge, he said there was a 66ft. suspended span in the middle, and essentially it was a double cantilever. It was a simple bridge. There were four ribs of rectangular section; the bottom boom was of the order of 18in. broad by 21in. deep, the diagonals were 18in. square. The deck was cast in situ over the lot, once the ribs had been erected. This method gave a remarkably light overall weight of structure. The mean thickness of concrete was about 21in., which was good for a bridge of 300ft. span; he thought it particularly good, in view of the simplicity of construction.

The bridge was split up; there were two precast triangles. At the top high tensile steel bars were fitted, which tied it back to the abutments. There was a detail near the abutment which was the most important part of the whole structure.

He illustrated the casting of the ribs on

the ground, and said the whole of one half of the bridge was cast at the same time. The joint used consisted of a steel plate and pin, and the pin was withdrawn when the elements had been cast and hardened and lifted. Since they were cast together, they would go back together with ease. The erection procedure was to hang them in the air, slip in the pin, and then all that was necessary was the adjustment at the end of each triangle, using the high tensile steel bars. He showed a detail of the hinge, the pin joint; there was a sort of trunnion plate, which was pinned.

The alternative possibilities were interesting. While casting one member against the next there was no particular reason why we needed any trunnion plates and pins at all. It was feasible to cast one surface with a register and to cast the other surface directly against it, without any jointing at all. That method had been used on a large scale in Russia, where they had made large precast segments cast one against the other, parting them and putting them together again.

Without expressing his opinion on the appearance of the bridge, he said it was very clear that this type of construction for bridges was a feasible proposition and, when it lent itself to larger spans, with very considerable economy of materials. The factor which beat us over very big spans was the deadweight; but he was convinced that it was the sort of thing which had a future.

Belgian Suspension Bridge

The suspension bridge in Belgium, which was built by Mr. Van de Pitte, was only a continuous beam; it was stressed by a cable which was everywhere outside the beam. There were points in regard to it which needed emphasis. The first was the need for fairly substantial dead-load to permit the voluptuous deflection in the cable. Secondly, the cables were put outside and they required very substantial measures of protection. Mr. Van de Pitte had the same cables as were used for suspension in the United States.

So far as the method was at present developed, it was essentially an in-situ technique. Mr. Van de Pitte had cast the deck in situ on scaffolding, then put up his cable in a lower position and used jacks to lengthen his cable. There was a considerable economy of steel, and in particular the steel was incorporated in the structure in a singularly convenient and conveniently constructed form.

In Mr. Harris's view there was clearly a limitation in respect of the total lifting force; if that force were very much greater there would be difficulty in mobilising the necessary number of jacks. Doubtless, however, other means of stressing cables could be devised.

A matter worth mentioning was that abroad, as in this country and as Mr. Adams had said, there was an increasing use of rubber pads for providing hinges, and so on; and he illustrated a bridge of 150-180ft. span, nothing very sensational, which incorporated rubber pads; each was a sort of lentil-shaped block, with very carefully calculated top and bottom radii of curvature. Generally speaking, he thought they represented a very substantial improvement on steel and cast steel rockers, various types of rollers and even the reinforced concrete hinge-type rocker.

A development which he had found to be intriguing was the use of a prestressed concrete deck with a steel structure; in Germany and Holland particularly this scheme had been proposed and carried out on the biggest scale. He gathered that the steel manufacturers thought they were losing too many jobs to concrete, and that it would be of mutual benefit to combine the two forms of construction. Referring to the top flange of a typical girder bridge, he said that instead of having a steel member taking the compression, they carried the compression on the concrete deck.

Narrows Bridge

MR. F. W. GIFFORD made a brief reference to the Narrows Bridge at Perth, (Concluded on page 332)

CONSTRUCTION: 1959, 1960 AND BEYOND

Industry Looks Ahead With Confidence

THE contracting industry has entered 1960 in a buoyant mood. It is slowly but surely throwing off the harness that held it back in 1957 and 1958. Output and employment are both rising, and the state of the order-books is such that, barring unforeseen events, the next 12 months could be ones of unparalleled activity. The main reservations concern costs, and the availability of some materials.

It is worth outlining the general background against which the improvement is taking place. There are now no doubts that the economy is recovering from the recession that reached its lowest point in the middle of 1958. Inquiry has shown that in the period June-October, 1959, some 50 per cent. of the companies questioned were working to full capacity, compared with only 20 per cent. in February, 1959. Real national production was some 4 per cent. higher in the third quarter of 1959 than in the first. Industrial production was some 7 per cent. higher in the third quarter of 1959 than in that of 1958. Total fixed capital formation is also rising: investment in plant and machinery may be lagging somewhat, but this has been more than offset by increased investment in vehicles and in new buildings and works. The number of unemployed has fallen, unfilled vacancies have increased and more overtime is being worked.

New Orders

New orders placed for construction work in the first nine months of 1959 amounted to £1,157m., or £211m. more than in the corresponding period of 1958: housebuilding of all kinds was the principal contributor, although other works, including industrial building, have been gradually picking up.

New orders are in fact tending to outpace work done, so the amount of work under construction is rising too. This is all to the good, since the level was dangerously low in 1958 and was clearly a factor operating against efficiency. Output-per-man has certainly improved since then, and it is likely that the index could go several points higher before a chronic labour shortage was again experienced. However, supplies of some materials, notably bricks, are still causing concern, primarily because production fell away during the recession and has been slow to recover.

Labour Force

The number of operatives employed increased steadily throughout 1959 until, in October, the total was 1,085,000, compared with 1,047,000 a year earlier and 1,103,000 in October, 1956. Most of the recent increase has been on new housing

for private developers, while the numbers on local authorities' housing schemes has continued to decline. The slight fall in the amount of work under construction at the end of September, 1959, will have helped to ensure that the labour force is not too thinly spread.

Wet weather was possibly a major reason for the 59,600 building operatives unemployed in the middle of November. Although this figure is nothing like as high as it was at the beginning of 1959 it is still disturbing, since it represents almost 6 per cent. of the total labour force. The future trend will, no doubt, be watched carefully by the unions.

In contrast, the number of outstanding vacancies in November was almost double that of a year ago—13,590, against 6,591. Vacant jobs for carpenters and joiners rose

brick stocks have slumped to just about their lowest ever level:—

Bricks: All types	
1959	Stocks at end of period
First quarter	416.5 millions
Second quarter ...	177.1 millions
Third quarter ...	91.6 millions
October	86.5 millions
November	89.2 millions

Production is now at record levels but so are home deliveries, and so far the latter have gained the upper hand. The fact that overall stocks are so low takes a lot from the argument that users should seek out local bricks. In the same way, with only about three or four days' supplies in hand, there seems to be little scope for a general improvement in distribution, even if some of the criticism on this score may be justified. The best hope is that the manufacturers will increase output still further; by extending their capacity, if needs be.

The cement position looks reasonably satisfactory, although here again stocks are

INDEX OF PRODUCTION All Work

Year	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	1954 = 100
					Annual Average
1954	100	99	101	101	100
1955	94	99	103	105	100
1956	100	108	108	109	106
1957	105	108	105	106	106
1958	103	105	106	108	105
1959	106	110	112		

Source: Central Statistical Office.

from 1,756 to 4,202; for bricklayers from 1,372 to 2,344; and for plasterers from 357 to 768. Read in conjunction with the unemployment figures they suggest that more attention than hitherto might be given to improving labour mobility.

Productivity

At 112 (official index, 1954 equals 100), output in the third quarter of 1959 was the highest recorded by the industry since the war.

Dividing the indices by the labour force employed provides a rough index of output-per-man, as follows:—

1955 equals 100; 1956 equals 103; 1957 equals 106; 1958 equals 107; 1959—first quarter equals 109; second quarter equals 110; third quarter equals 108.

The improvement in output-per-man, measured in this somewhat rough and ready manner, compares reasonably favourably with increases in other industries. Granted an adequate flow of materials and freedom from industrial disputes, there is good reason to hope that it will continue throughout 1960.

Materials

Inadequate brick supplies were the cause of much trouble throughout almost the whole of 1959, and there is still no guarantee that the situation is completely righted. The following table shows how

very much lower than they were a couple of years ago—242,000 tons at the end of November, 1959, compared with an average of 362,000 in 1957—despite the fact that exports in 1959 were on average lower than in some earlier years. None of the other major materials seems to be causing acute concern, or to be likely to do so in the immediate future. A question mark invariably hangs over steel supplies; here it can only be hoped that in the expansion schemes recently announced the importance of the construction industry has not been overlooked. Softwood stocks at present look sufficient.

Costs

1959 was a year of remarkable stability in building costs. At 113 (provisional) the official index was, in fact, two points lower than the average for 1958. Despite the Chancellor's plea for lower prices all round, it is by no means certain that it will be possible to maintain this position throughout 1960. The outcome of the operatives' application for 4d. an hour wage increase is still unknown. But apart from this, certain factors are bound to push up contractors' wage costs during 1960. By October 3, a 44-hour week will be general throughout the industry, and there will be no districts below Grade A. The civil engineering operatives have submitted a claim for a reduction in weekly working hours to 40: the outcome of this claim is also awaited, but the operatives' chances do not appear to be too good.

It seems doubtful that the stability of material prices during 1957, 1958 and 1959 will be sustained throughout the whole of 1960. Their steadiness in earlier years was due mainly to falls in the prices of imported materials, such as softwood, offsetting increases in the prices of some major home-produced materials. Now world prices of raw materials are rising in response to expansion in the industrial countries. Zinc, lead, copper and imported softwood prices were a shade higher in November than a few months earlier. Of course, any general wage increase or working hours reduction would affect building material manufacturers' costs in the same way as those of other manufacturers.

Longer-term Prospects

Such reservations apart, it is evident that the industry can look ahead with confidence. It is generally acknowledged

(Concluded on page 336)

CONTRACTORS' NEW ORDERS Value of orders obtained during quarter

Value of orders obtained during quarter									£ million		
Period	Public Authorities	New Housing		Total New Housing	Public Authorities	Other New Work			Total Other New Work	Total All New Work	Work not covered by Orders (a)
		Private Developers				Industrial	Private Developers	Miscellaneous			
1957											
3rd qtr.	67	58	125	117	51	48	99	216	341	28	
4th qtr.	51	63	114	86	51	48	99	185	299	35	
Total 1957	253	277	530	396	215	198	413	809	1,339	150	
1958											
1st qtr.	50	72	122	114	54	49	103	217	339	42	
2nd qtr.	49	71	120	93	46	47	93	186	306	37	
3rd qtr.	54	72	126	81	49	45	94	175	301	41	
4th qtr.	65	85	150	93	39	47	86	179	329	57	
Total 1958	218	300	518	381	188	188	376	757	1,275	177	
1959											
1st qtr.	74	109	183	101	55	56	111	212	395	71	
2nd qtr.	65	99	164	106	63	57	120	226	390	59	
3rd qtr.	57	109	166	95	55	55	110	205	371	70	

(a) This is work to be done without a firm order being placed. Figures are included in previous columns.

Source: Ministry of Works.

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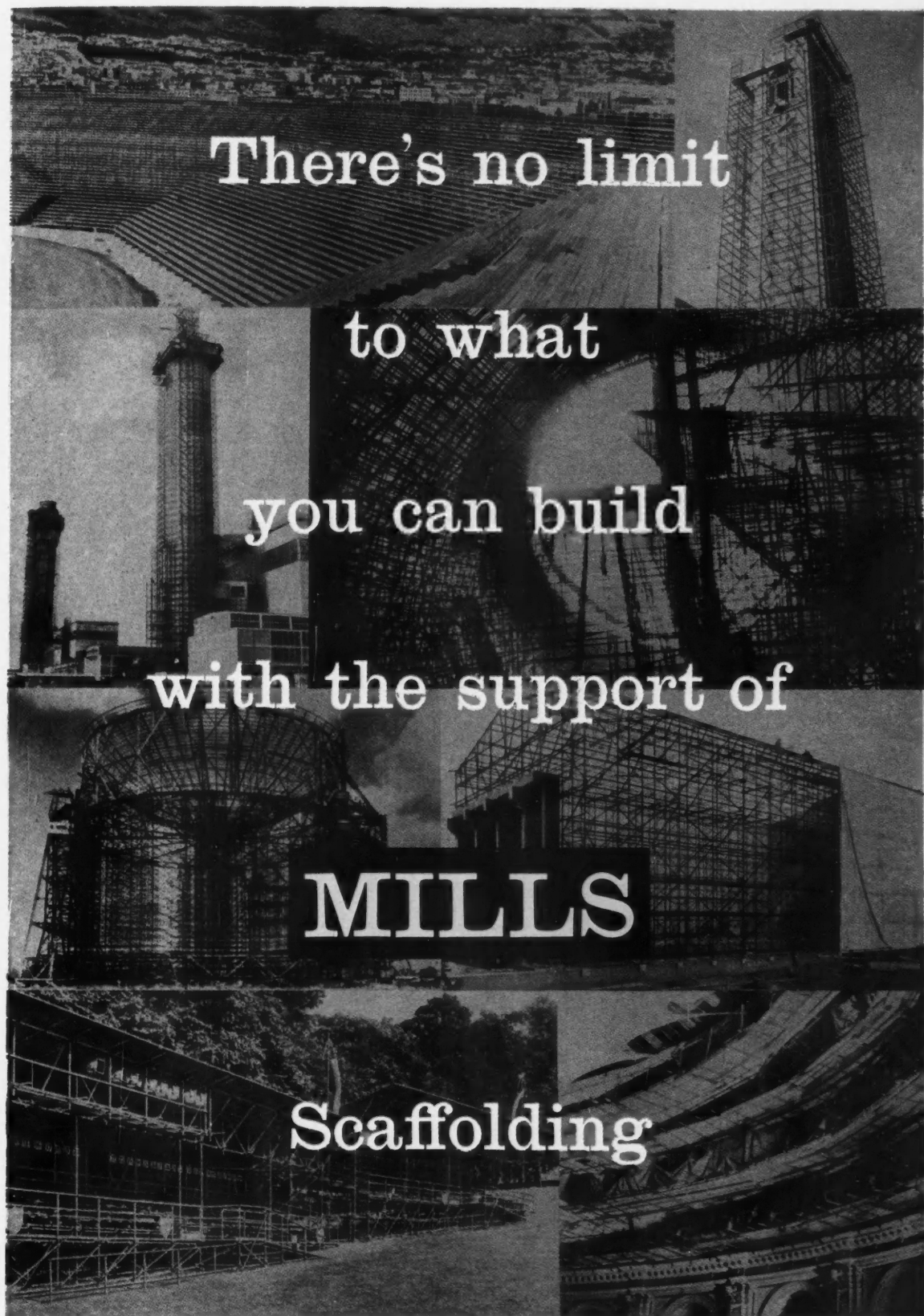
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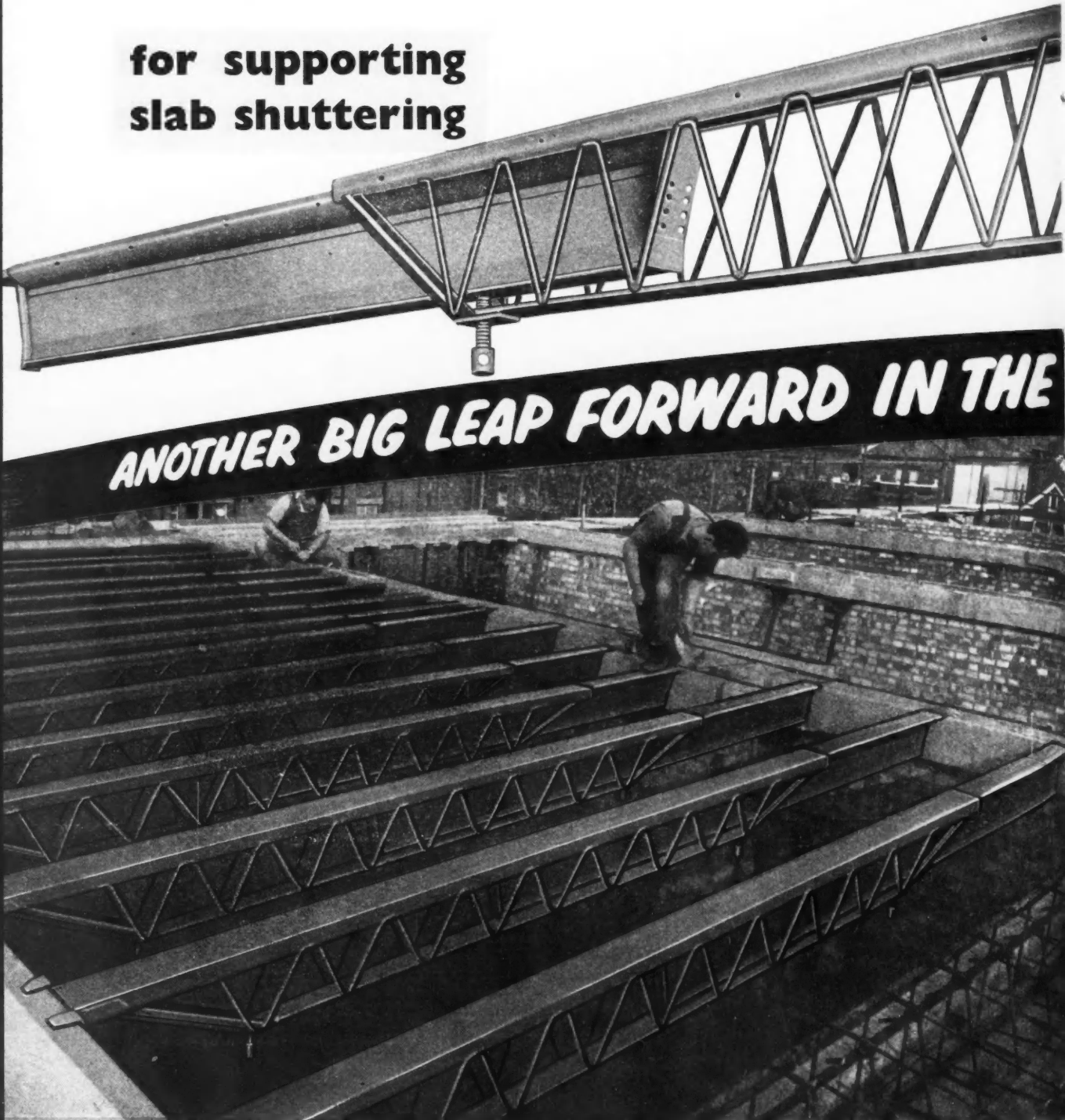
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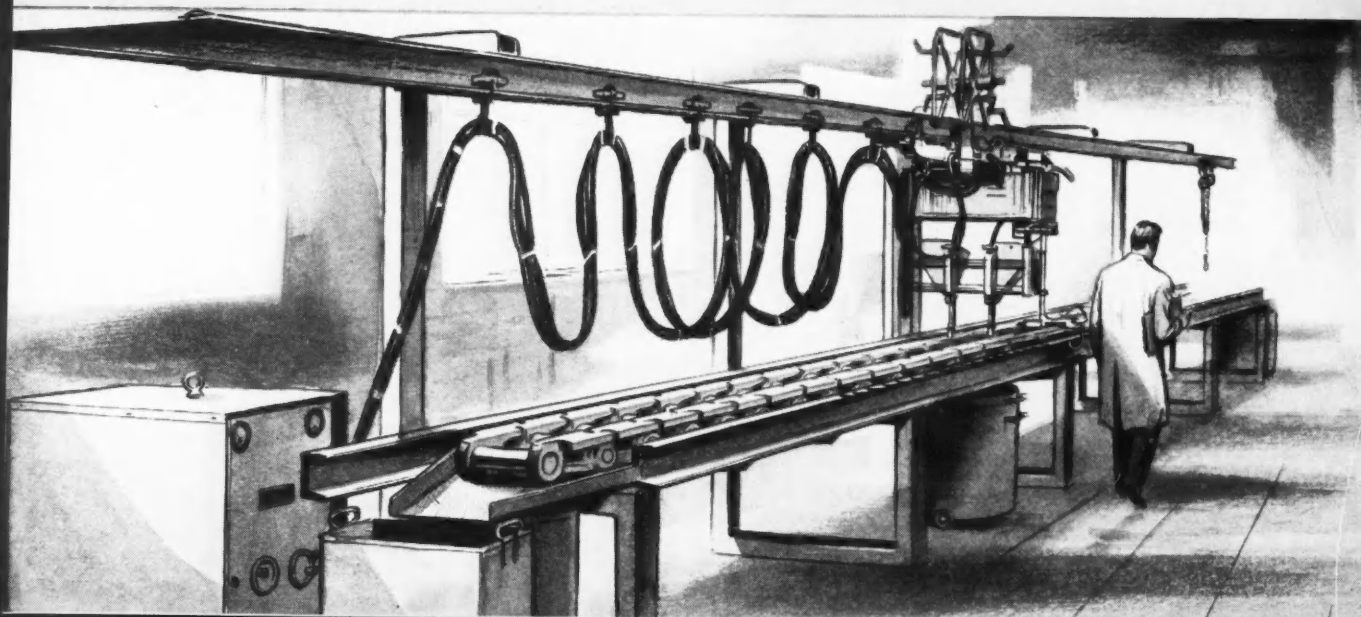
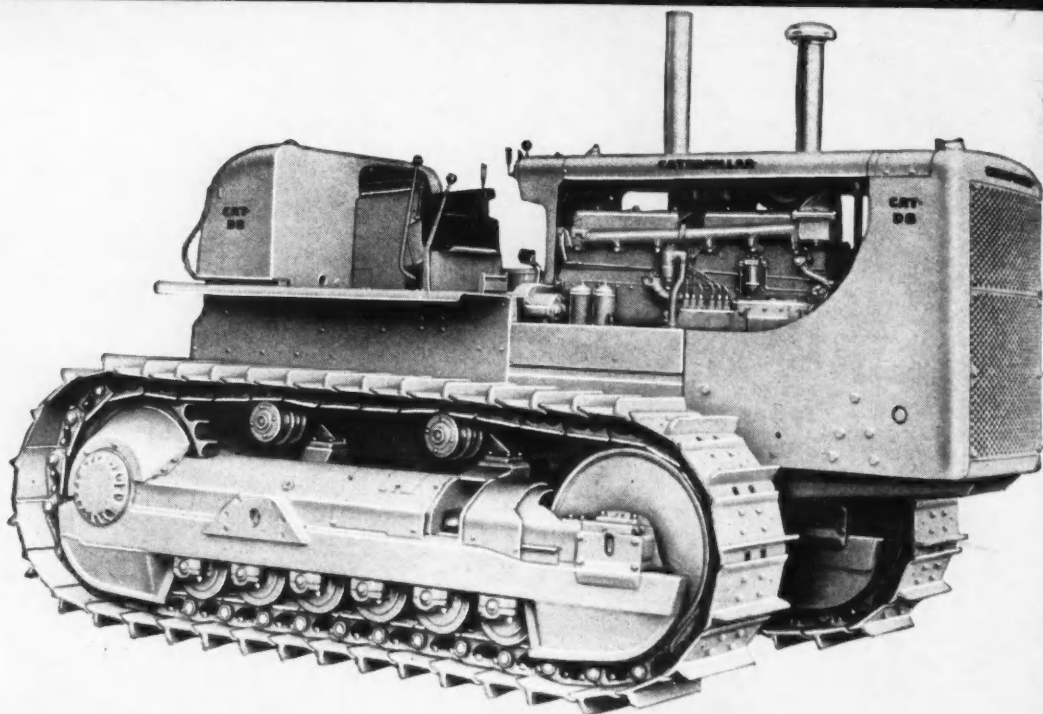
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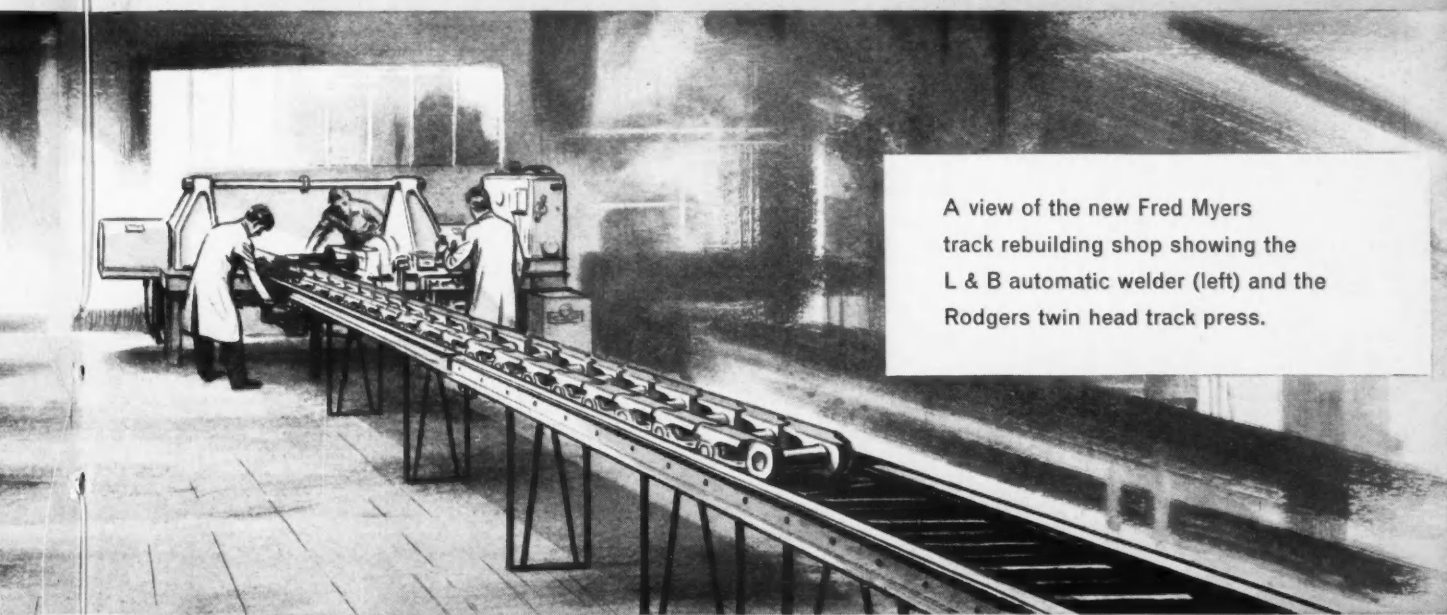
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AWKWARD for BRICKLAYERS

The bricklayer is working in an awkward position. His materials are awkwardly placed for him to pick up. The man delivering materials cannot get past.



AWKWARD for PAINTERS

The painter is unable to reach the whole of the window and is in an awkward position for reaching any part.



AWKWARD for PLUMBERS

Working just below floor level and requiring a reach of about 7 ft., the plumber is at full stretch for the upper part and cramped for the lower part of the work.

The NEW way: **WITH ACROW HOP-UP**



PERFECT for BRICKLAYERS

The bricklayer is working comfortably. His materials are comfortably placed for him to pick up. The man delivering materials can get past without interrupting the work.



PERFECT for PAINTERS

The painter has a comfortable position for working on the whole of the window.

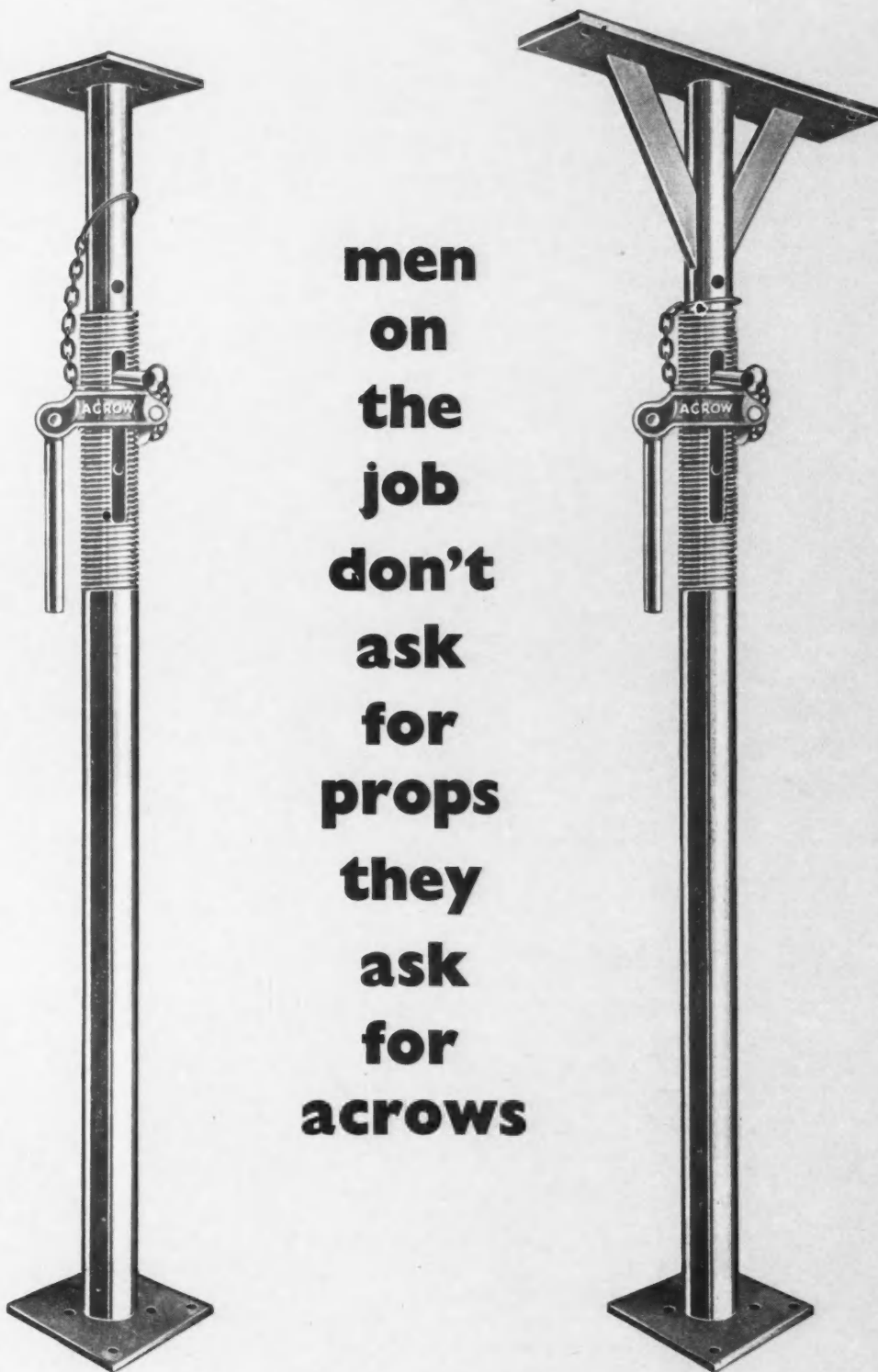


PERFECT for PLUMBERS

Here the plumber is working at a comfortable height with tools and materials immediately to hand.

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A LAWYER CONSIDERS ...

A Company's Residence for Tax Purposes—Surtax Directions

IN these days when so many medium and large contractors are organised by means of a holding company and various subsidiaries the decision of the House of Lords in *Unit Construction Co., Ltd., v Bullock* [(1959) 3 All E.R. 831] is of considerable interest.

The facts were that the appellant company U is a wholly owned subsidiary of B and three fellow subsidiaries of B were all registered in Kenya under that colony's laws relating to limited liability companies. During the years 1952 and 1953 U made certain payments to these Kenya subsidiaries and then claimed under the terms of the Finance Act, 1953, S.20 to be entitled to deduct these payments in computing its liability to tax for the appropriate years. The right to make this deduction only arises under S.20 if such companies to whom these subvention payments have been made were then "resident in the United Kingdom and carrying on a trade wholly or partly in the United Kingdom."

The parent or holding company had created these Kenya subsidiaries in 1948 and 1949 and it was apparently the intention that these companies should be solely resident in Africa so that their profits could be used for development there without liability to U.K. taxation and also apparently to forestall any question which might arise in connection with any future nationalisation of the building industry. For reasons largely connected with the Kenya disturbances these companies incurred losses which naturally worried the parent company whose directors decided to take over management and control. No formal agreement was ever reached with the Kenya companies that the parent company should intervene in their control and management but the Kenya directors clearly appreciated that this change had in fact taken place. The position that resulted was that the directors of the Kenya subsidiaries did not, and for all practical purposes could not, manage and control the business of their companies; if they had tried to do so otherwise than in accordance with the directions of the parent company the latter would have removed them from office. The directors were not found, therefore, to have any greater authority either as individuals or as boards than other senior employees and there was no evidence that they ever acted or tried to act as boards. On these facts, therefore, the Special Commissioners of Income Tax who heard the appeal found that the Kenya boards were standing aside in all matters of real importance and in many matters of minor importance affecting the central management and control and that the real control and management was being exercised by the parent company's directors. They also found that while the controlling power and authority was exercised in London the Kenya companies' constitutions in fact vested such power and authority in their own directors. However, looking at the facts as they were and not as they should be according to the constitution, the Commissioners found that the real control was in London and as, for the purposes of taxation, it is settled law that a company's residence is where it is controlled, these companies were resident in London. It followed, therefore, that U's subvention payments to make good the Kenya companies' losses were deductible in computing U's tax liability.

This decision was reversed by the High Court and the Court of Appeal but the House of Lords unanimously restored it on the final appeal. The strongest argument against their Lordships' view was that since the Kenya companies were being run in a way contrary to their constitution this method of conducting their business was unlawful or

at the least irregular and must be disregarded. But as Viscount Simonds said, "Nothing can be more factual and concrete than the acts of management which enable a court to find as a fact that central management and control is exercised in one country or another. It does not in any way alter their character that . . . they are irregular. . . . The business is not the less managed in London because it ought to be managed in Kenya. Its residence is determined by the solid facts, not by the terms of its constitution however imperative . . . it is the actual place of management not that place in which it ought to be managed, which fixes the residence of a company."

This important case, therefore, makes clear that for tax purposes the test to be applied is the one laid down in an early tax case by Lord Loreburn, namely that "a company resides for purposes of income tax where its real business is carried on . . . the real business is carried on where central management and control actually abides." This test is not to be modified because the real control is exercised in a way not authorised in the company's constitution; the courts will now go behind written façades and find out the real situation to enable them to answer the question of where a company resides for tax purposes. With great respect one must feel that this decision is entirely correct. If this were not the test then many companies could, for such tax benefits as might result, say one thing in their constitutions but allow the practice to be quite different; and since the only shareholders who could protest at such breaches of the constitution of the company would be those who benefited by the breaches such protests would be very rare. All companies but especially those with interests overseas should note this decision of the House of Lords with care.

IN the constructional industries with so many contractors in the small and medium class and so many companies really being the old family business in the modern dress of a limited liability company, the tax legislation in regard to surtax directions on companies is a factor which this type of contractor has seriously to consider.

Briefly the legislation applies to companies which are controlled by five or less persons. If such companies do not distribute to those entitled a reasonable proportion of their profits in any one year then the Special Commissioners have power to direct that all the profits (not merely a reasonable proportion of them) must be distributed. This distributed profit is then of course part of the income of the recipients for tax purposes and if these recipients are in the surtax range they will thus pay surtax on these distributed profits. Clearly, therefore, this legislation is aimed against the following sort of transaction. The A.B.C. Co., Ltd., have profits of £5,000 but have only distributed about 10 per cent.; the company is entirely director-controlled by two directors and their wives; Director X wishes to purchase an annuity for himself or his wife and for that purpose the company loans him out of the undistributed profits £3,000—this loan is on very easy, or probably non-existent, terms. The loan is not of course part of Director X's income at all and thus he has had the benefit of the profits of his company without bearing any tax burden thereon. This rather extreme example is the type of case the legislation is aimed at.

The crucial question in each case to which this legislation applies is whether or not the company has distributed a reasonable part of its actual income for any one year or accounting period. In

answering that question however the Special Commissioners must have regard "not only to the current requirements of the company's business but also to such other requirements as may be necessary or advisable for the maintenance and development of that business." It is this essential provision which gives the tax-paying company such protection as it has against a surtax direction; so if the company and those controlling it are satisfied that the money has been retained in the company for the development of the company's activities and not for the benefit of those controlling the company, any attempt to make a surtax direction to distribute this money should be resisted most strongly. An appeal lies to the Board of Referees against any direction by the Special Commissioners.

From such information as is available it would seem that up to 1958 the Special Commissioners would not generally act where the company distributed one-third of its profits as dividends which would of course be part of the payee's income for surtax. This proportion would hold where a company had resources which were fairly realisable and where no heavy or exceptional capital expenditure was to be expected. Since 1958 however this position seems to have altered because there was in 1958 a change in profits tax law which did away with differing rates of profits tax on distributed and undistributed profits, whereby the latter bore profits tax at a lower rate. So since 1958 the fact that the distribution of profits would not attract higher profits tax than non-distribution has had to be borne in mind. There is thus less justification for non-distribution and the Special Commissioners now seem, from evidence available, to be looking for a considerably larger distribution and 45 per cent. would be the sort of distribution which, as a general guide, would probably keep a company safe from a surtax direction.

It should be remembered that once a direction is made in respect of the profits of any one year or accounting period it applies to the whole of those profits and not merely a reasonable proportion of them. This rule seems grossly unfair and indeed the Royal Commission on Taxation recommended its modification; but like many sensible proposals littered throughout Royal Commissions' reports the Government has not implemented it.

Directors and the financial advisers of the sort of family and small companies covered by this penal legislation should therefore consider very carefully the dividend policy of their company; moreover, as in most matters where a taxpayer meets with the Revenue in its more penal guise, once a company has had a direction made its future is perhaps rather more closely watched than other companies. A realistic appreciation of this legislation and the making of an appropriate distribution may well save a company from a surtax direction.

WALSALL OFFICIALS TO VISIT GERMANY

A visit to Germany will be made later this year by three representatives of the public works department of Walsall B.C., comprising the chairman of the public works committee, the borough surveyor, and the chief architect.

The purpose of the visit will be to inspect various forms of German road construction and design, with particular attention to two-tier concrete constructions, and it will be made in connection with the £3m. programme of major road works which is to be carried out in the borough eventually.

PRESTRESSED CONCRETE EXHIBITION

Influence of British Development

THE influential part that British engineers and designers have played in the development of prestressed concrete can be judged from the Prestressed Concrete Exhibition now being held at the Institution of Civil Engineers, London. Organised by the Prestressed Concrete Development Group, the exhibition was opened last week by Sir Herbert J. Manzoni, C.B.E., city engineer of Birmingham and senior vice-president of the Institution. It closes tomorrow, January 22.

The exhibition shows not only the extent to which engineers in this country have improved on existing methods of prestressing and prestressing equipment but the extent to which they have actually initiated entirely new methods and the scale on which their product is being used, not only in Britain but also overseas.

Development in Britain

Prestressed concrete was first introduced into this country barely a dozen years ago.

Then only Freyssinet's original system was known. After the first variant that was heard of—Magnel's system, developed in Belgium during the war—there came the British Lee-McCall system (using bar instead of wire), the British Gifford-Udall-CCL system (initially designed for stressing and anchoring single wires in small units but now dealing with the largest strand) and then the British P.S.C. MonoWire system (another single-wire system now also used for strand up to 1/2 in. diameter). The Preload system for circular stressing came from the United States, and British engineers now also operate the Swiss BBRV system.

Improvements on the earlier methods have been made—many, if not most, originating in this country. New types of anchorage and jack, which enable the smallest units to be stressed, in the most confined spaces, and at the other extreme, the big multi-strand assemblies giving a prestressing force of over 50 tons on each strand and tensioning beams over 200ft. long, and, in addition, improvements in detail, all tending to simplify the prestressing process can now be seen.

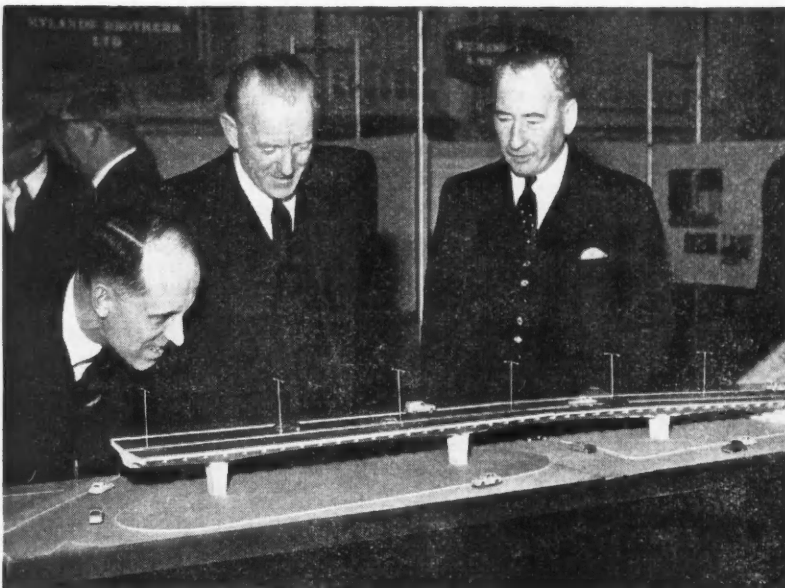
In the Freyssinet system, for instance,

are such refinements as an alternative steel male cone designed especially for use with "stage" prestressing, a threaded polystyrene coupling cast into the female cone for coupling up with the threaded cable sheath—and the sheath itself, improved in design, shortly to be manufactured in this country. The P.S.C. MonoWire system—still applicable to one-, two- and four-wire stressing of the slenderest units—is now applicable to eight- to 12-wire anchorages too; a curved stressing tube which is also available for stressing round corners incorporates roller bearings to reduce friction. The Gifford-Udall-CCL method is now operated separately by the two original component firms, as the Gifford-Udall system and the CCL system; both offer, besides the original anchorage of individual bushes into which collets are hammered home, the alternative of a plate pierced with tapered holes; these small plates reduce the area required for anchoring. The Lee-McCall bar system has introduced an alternative anchorage without thread—it consists of collets wedged into a cone, enabling the bar to be anchored at any point of its length—an advantage if the precise length required is not known in advance. An improvement to the original threaded bar is in the formation of the thread itself which, rolled instead of cut into the steel, leaves the effective diameter of the bar unaffected. A further improvement is a considerable reduction in the size of bar couplers.

Introduction of Strand

One advance common to all the wire-using methods is the introduction of strand, used either singly, or in multi-strand assemblies. Gifford-Udall-CCL were probably the first British prestressing firm to adopt strand stressing, using small (0.7 in. diameter) strand in the Narrows Bridge, Perth, Australia. All the well-known systems now make use of strand—the P.S.C. MonoWire in sizes up to 1/2 in., the others up to 1 1/2 in. which is the largest size at present available—and have developed appropriate jacks for stressing both single strand and multi-strand assemblies. Stressed Concrete Design, the British firm operating the Magnel system, have developed a method by which the

(Concluded in next column)



Left to right: Mr. A. J. Harris, vice-president of the Prestressed Concrete Development Group; Sir Herbert J. Manzoni, C.B.E.; and Mr. C. W. Hamilton, president of the Group inspecting a model of the proposed Hammersmith Flyover, designed by the L.C.C. in prestressed concrete.

Late Construction News

RENFREWS. FACTORY EXTENSION.—Work has just commenced on the erection of a large extension to the India Tyre and Rubber Co.'s factory at Inchinnan, Renfrewshire. The contractors are Drummond Lithgow and Co., Ltd., 176 Bath Street, Glasgow, C.2, and plans are by the promoters' staff architect.

CWMBRAN TOWN CENTRE.—Selected contractors are being invited to tender for the erection of 20 shops and four flats for the Cwmbran Development Corporation at the town centre business area (Contract 50).

DERBY STORE EXTENSION.—Ford and Weston, Ltd., Derby, have been awarded a £250,000 contract for building an extension to the Ranby department store, Derby. The work is expected to take about three years.

BROMLEY COLLEGE CONTRACT.—Kent C.C. have been recommended to accept the £260,000 tender of Rush and Tompkins, Ltd., Sidcup, for the erection of the Bromley College of Art at Bromley Common. No starting date has yet been given for the work. The architects are George Trew and Dunn, 6 Queen Anne's Gate, London, S.W.1, and the quantity surveyors are Arthur J. Willis and Thompson, 41 Parliament Street, London, S.W.1.

SEWERAGE SCHEME CONTRACT.—Subject to their bills of quantities being in order, Bowzell, Ltd., Walmer, Kent, are to be awarded a £103,797 contract to carry out Elham R.D.C.'s Hawkinge, Swingfield and Acrise sewerage scheme. The scheme involves the construction of about 7 1/2 miles of 9 in. and 6 in. sewers, with house connections, two miles of 6 in. and 4 in. rising mains, and three pumping stations. The consulting engineers for the project are A. P. I. Cotterell and Son, 54 Victoria Street, London, S.W.1. Work is expected to start in April.

SWINDON FACTORY.—A £500,000 factory is to be built at Stratton St. Margaret, Swindon, by Higgs and Hill, Ltd., for Deloro Stellite, Ltd. It will have a floor area of 130,000 sq. ft. and will take just over a year to complete. Plans are by Cotton, Ballard and Blow, Cavendish House, Waterloo Street, Birmingham, 2.

OFFICES AT BRISTOL.—John Knox (Bristol), Ltd., Winterstoke Road, Bristol, 3, are to erect a four-storey block of offices at 33-35 Queen Square, Bristol, for I.C.I., Ltd. The consultants are: Alec F. French and Partners, architects, Halifax House, St. Augustine's Parade, Bristol, 1; John F. Farquharson and Partners, consulting engineers, 34 Queen Anne Street, London, W.1; and Messrs. Gleeds, quantity surveyors, 2 Park Street, Bristol.

EXETER COLLEGE EXTENSION.—Bills of quantities are now being prepared for the erection of a junior block at the St. Loyes College for the Training and Rehabilitation of the Disabled, Exeter. The architects are Lucas, Roberts and Brown, Barnfield Hill, Exeter, and the quantity surveyors, Banks, Wood and Thompson, 11 Richmond Road, Exeter.

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Magnel-type cable is formed of strand—up to 48 1/2 in. strands being boxed together, thus giving a very high concentration of prestressing force in a comparatively small area. Strand, so extensively used in pre-tensioning in the United States, is also being adopted in this country for the stressing of large pre-tensioned units.

One difficulty with strand has been the measurement of load during prestressing: the usual hydraulic pressure gauges are insufficiently accurate with such large elements. Both Udalls Ltd., and Cable Covers, Ltd., have now available a "load meter" which automatically registers load in relation to extension, and is extremely simple to operate. Another development common to most British-operated systems is power stressing, with jacks automatically operated and powered by either electricity or petrol motor.

NATURAL RESERVOIRS AUGMENT LONDON'S WATER SUPPLY IN SUMMER

AS the result of experiments carried out in recent years, London's water supply in drought periods has been increased by 1,500,000 gallons daily. The idea is that water, drawn from existing filtration works during winter months, is passed underground into the Thanet Sand and the Upper Chalk of the Lower Lea Valley through wells. Subsequently, abstraction takes place from these wells in summer months.

Details of this development were given by Mr. E. Boniface, deputy chief engineer, Metropolitan Water Board, in a Paper, "Some Experiments in Artificial Recharge in the Lower Lea Valley," which was presented last week at the Institution of Civil Engineers.

Mr. Boniface described how four recharge experiments were carried out at the Board's Lea Bridge, Ferry Lane and Chingford Works between 1953 and 1958. He continued:—

To obtain a proper perspective it is necessary to investigate the possibility of variations in natural recharge into the Lower Lea Valley. A study of the water-table contours north of the Thames, including the outcrop of the Chalk, shows that the ground-water should flow in a generally southerly direction. A further study of the contours, in relation to the surface area of the (Upper) Lea Catchment above Feildes Weir, indicates that the rainfall over this catchment should give a reasonable measure of the availability of water for natural recharge. Meteorological Office records show that the average, six-monthly, winter rainfall during the decade ending March, 1958, has been about 3½ per cent. lower than the standard average over this catchment, whereas there has been an insignificant variation in the average summer rainfall. Therefore, so far as the period 1948-58 is concerned, river flows will have tended to be less than formerly and natural recharge will also have suffered.

Three factors support the view that natural recharge into this part of the valley has a fairly uniform rate of infiltration other than the long-term small decline. First, the Chalk is surcharged with water at many places on its northern outcrop at its junction with the overlying Eocene beds and river flows and gravel waters are the first to suffer in drought periods. Secondly, no seasonal variation in Chalk ground-water levels has been discernible in the area either from infiltration from the distant outcrop or from the local percolation which may occur in the vicinity of Lea Bridge and even, to a small extent, through the "clay seal" further up the valley. Finally, the total abstraction from the many wells lying to the north of the artificial recharge area and between it and the outcrop has not materially altered during the present decade.

With unknown residual effects to contend with, calculations to establish the effective porosity of the Chalk and Thanet Sand became more suspect as the experiments proceeded, nevertheless the figures given for the first and second experiments are considered to be useful guides. In the second experiment (Lea Bridge and Ferry Lane areas) it was calculated that the total volume of the aquifers resaturated in the combined zones of influence was 3.706 x 10⁹ cu. ft., of which 2.306 x 10⁹ cu. ft. was in the Thanet Sand. The combined effective porosity was, therefore, 4.6 per cent. on the assumption that the total quantity of water used in the second experiment alone, i.e., 1,072,000,000 gallons, was responsible for the replenishment of the aquifers. In the first experiment, with doubtful fringe effects to cope with in the outer part of the zone of influence, the

effective porosity was calculated to be from 5 to 7 per cent. Having due regard to the, necessarily, very approximate method of obtaining these percentages, it is probably prudent to accept 5 per cent. as the combined effective porosity in the conditions obtaining.

The Chalk and the Thanet Sand may both have average porosities of about 40 per cent., but unfissured Chalk, by virtue of the capillary properties of its micropores, may retain a saturated water content indefinitely, despite the draining away of water in adjacent fissures and always provided that no evaporation occurs. For example, samples of Chalk taken from the well shaft immediately below the brick underpinning at Ferry Lane, 30ft. above a pumping water level, which had been maintained for six months, were found to be fully saturated with a water content of 27 per cent. and a porosity of 43 per cent. Thus it seems certain that Chalk has a lower percentage of effective porosity than the Thanet Sand—a sand stratum which is believed to be self-draining apart from the pellicular water. Taking the combined effective porosity in the second experiment as 5 per cent., then, if the value for Chalk is taken to be 2 per cent., that for the Thanet Sand is more than 6 per cent. It is germane to add that the effective porosity may be influenced by air imprisoned in the voids of a stratum during recharge, particularly if it is below an aquiclude.

Ground-water Account

With the adoption of certain basic figures, including the average rates of abstraction before and after October, 1953, in the Ferry Lane-Lea Bridge area, an endeavour was made at the end of the second experiment to establish a ground-water account. This account postulated the loss of aquifer storage prior to artificial recharge, at the rate of 2ft. per annum over an area enclosed within a two-mile radius of either well system, the aquifers having an effective porosity of 5 per cent. As a result of the experiments, equilibrium had been temporarily achieved in the level of the water-table in the area and some recharge-water had passed outside it. By equating the sum of the natural and artificial recharge figures with the outgoings from the aquifers, this "recharge leakage" appeared to be 0.5 m.g.d.; in all probability the water was travelling westwards. Such a calculation unquestionably over-simplified the matter but it was felt that it was helpful in an overall appreciation of the position. As previously inferred, subsequent ground-water calculations became more hypothetical in character.

The percentage of the recharge-water subsequently recovered was of prime importance in determining the success or failure of the experiments. It has already been remarked that this figure had consistently risen and it apparently reached 40 per cent. overall at the end of the fourth experiment. However, some apparent anomalies exist in the quantities given for the third and fourth experiments in that, considered separately, more water has been recovered from the aquifers at Ferry Lane and Chingford Mill than has been artificially recharged into them at their sites.

Notwithstanding the anomalies, it was clear that the Thanet Sand was the better aquifer to recharge in the Lower Lea Valley. Subsidiary factors influencing the percentage of recharge-water recovered, such as the period between cessation of recharge and commencement of pumping, and the characteristics of the well pumps could not materially affect the issue in this respect. Paradoxically, over-pumping at the Ferry Lane and Chingford Mill sites has probably contributed to the success of

the present operations by the formation of zones of depression in the sands which the recharge-waters have proceeded to fill up.

The variations in non-carbonate hardness in the water used for recharge changed slowly at the various sites in accord with the seasonal variations in the quality of River Lea water, but appeared to have little to do with the more notable variations in adjacent wells which were affected by the recharge operations.

For instance, well S.1 showed a rise of non-carbonate hardness greatly in excess of the hardness of the recharge-water being used at Lea Bridge at the commencement of each recharge period. In Lea Bridge well itself the maximum of non-carbonate hardness, again far in excess of that possessed by the recharge-water used, occurred as soon as abstraction started and then gradually assumed more normal proportions.* It was possible that, locally, the relatively small quantity of natural recharge-water seeping slowly downwards to the water-table, possessed a high non-carbonate and total hardness fraction and that upward surges of water into the zone of aeration and reversals of flow, owing to artificial recharge, were responsible for this phenomenon. In the case of S.4, a well-water possessing no non-carbonate hardness, the total hardness was affected likewise. A great number of determinations were made during the course of the experiments to ascertain other chemical constituents of the various well-waters, but the results do not call for special comment.

To summarise the results of many bacteriological tests it can be said that the recharge operations did not show any decline in the bacteriological quality of the waters in neighbouring wells. Direct influence from the recharge-water was not to be expected, in view of the good potable quality of the water used, but until the experiments proved otherwise, it was possible that some extraneous cause for contamination might be brought about by a rise in the water-table or by changes in the direction of ground-water flow.

The natural temperature of the Chalk well-waters in the area is from 11 to 13 deg. C., whereas the recharge-water temperatures varied between 0 and 16 deg. C., in accordance with river-water temperatures. The temperature of the water initially abstracted from the recharge-abstraction sites depended on the period of time elapsing between the two operations and the temperature of the recharge-water used immediately prior to the change-over, but, in general, the water abstracted soon attained normal ground-water temperature.

Other Considerations

Time lags were observed, both in variations of level and in the hardness fraction, in neighbouring wells after changes at recharge-abstraction sites. It is also interesting to note that, at three well sites, where proper standing water levels could be obtained, the levels fluctuated with precision in accordance with changes in atmospheric pressure. Naturally, such a disturbing element made the study of the effect of recharge difficult in areas on the fringe of the zone of influence.

The three recharge-abstraction well stations have an effective capital value of nearly £400,000. Owing to failing yields their future was uncertain when the recharge experiments commenced in 1953. It was appreciated that, although the economic aspect of the operations would be of great importance in determining their future, it could not, of itself, decide the outcome in view of the number of

*Such fluctuations were known to take place prior to the recharge experiments.

imponderables which could not be assessed solely on financial grounds. Factors which defined a strictly monetary approach included the inherent advantages of maintaining local supplies to a district as against that from a more distant (river) source: the value of making the best use of the existing main reticulation, and the merit of not placing too great a reliance on one preponderant source of supply in case some exceptional circumstance should render it temporarily unusable.

Economics

At the end of the first experiment an approximate economic assessment was made of the cost of future operations at Lea Bridge and at Ferry Lane, based on the information available at that time. A comparison was then made with the cost of obtaining additional water from the Thames in a serious drought. An additional supply of 1 m.g.d. from the Thames meant that additional storage capacity would have to be provided. The cost of such construction and of conveying the water across London during the drought was, therefore, compared with the costs incurred in the type of recharge-abstraction operations described where maximum use was made of existing installations.

An evaluation showed that, where potable water could be siphoned into the wells, as at Lea Bridge and Ferry Lane, the comparative cost of subsequently abstracting each additional million gallons was approximately £47.1 with 10 per cent. recovery of the recharge-water used. This summation included costs of filtration and chemical treatment for 100 per cent. of the water used, additional well pumping and loan repayment on incidental main-laying, meters, etc. On a comparative basis, additional water from the Thames would cost approximately £46.5 per million gallons, calculated on new works of economic size, and with factors eliminated which are common to both means of obtaining an additional supply.

A similar calculation in the case of Chingford Mill, showed that, because of the expense of using water under service reservoir head, the overall cost of recharge at this site did not bear comparison with that of additional water from the Thames unless the recovery was about 90 per cent.

Abstraction figures show that the corrected percentage of recharge-water recovered at Lea Bridge and Ferry Lane, taken over the four experiments, gradually increased to 34 per cent. and that, mainly because of concomitant well development, the water "recovered" at Chingford Mill

was considerably in excess of the recharge quantity—a result which probably will not be repeated if it is accepted that the natural yield has been increased by the operations. Bearing in mind that, despite this proviso, the results from Chingford Mill were most encouraging, it could be said that, with the overall recovery at 38 per cent., recharge at the three sites was an economic proposition from the Board's viewpoint alone, apart from the gain to other well users.

As the fourth experiment drew to a conclusion an overall assessment of the results encouraged the hope that an extension of operations would be possible. The need for economy, however, precluded expenditure at the time on the necessary additional plant and connections. It was decided, therefore, to continue with recharge-abstraction as normal operational procedure at Chingford Mill, Ferry Lane, and Lea Bridge.

Conclusion

The experiments have shown that a considerable quantity of river-water, surplus to the Board's winter requirements, can be stored in the Thanet Sand and the Upper Chalk of the Lower Lea Valley for use during periods of peak demand in the following summer and autumn months at economic cost to the Board, the quantity recovered being 38 per cent. of the water used in artificial recharge; the percentage recovered increasing as the experiments progressed. Furthermore, three important well stations were rehabilitated.

Of the 2,700,000,000 gallons of water used, about 1,600,000,000 gallons remained in the aquifers to benefit the other wells in the area, the previous steady fall in water levels having been checked. In addition, wells outside the area of detectable influence profited to an unknown extent. Altogether, the outputs of a number of private wells have been maintained instead of falling. Hence, indirectly, further calls on the Board's supply have been prevented.

Using spare filter capacity, producing 8 m.g.d. in a period of low demand, the safe additional well output, averaged over the summer and autumn months, rose to 1½ m.g.d.; furthermore, during the months of maximum demand, the supply was augmented by about 3 m.g.d. The only real disadvantage disclosed was the temporary increase in the hardness fraction of some of the well-waters influenced by recharge. In no case, however, did the increase affect the purity and wholesomeness of the water.

To adumbrate the future of this method of recharge is not easy when the chief criterion has to be the direct benefit to the statutory water authority alone. The obvious necessity of only using water of first-class quality for recharge, in an area where so many wells have been sunk, immediately restricts the maximum amount of water available for it. Further, the water should only be taken during periods of surplus river flows. With a spare filtration capacity of the order of 50 m.g.d. during part, at least, of the winter period, it would appear theoretically possible to increase the safe additional yield of the Board's well resources by about 9 m.g.d. on a *pro rata* basis if suitable recharge sites are available.

In practice it would be very doubtful if the necessary combination of favourable circumstances, including availability of surplus river-water, filtration and pumping plant, and mains, would allow recharge to take place at a rate approaching 50 m.g.d., bearing in mind the need for overhauls, repairs, etc., in "off peak" periods. A forecast, based on a gradual extension of operations in areas adjacent to the existing recharge-abstraction sites up to the practical limit set by the main reticulation and plant availability, places the safe additional well yield in the immediate future at a total of about 3 m.g.d. There is a possibility of a further increase if a new filtration works of larger capacity replaces Lea Bridge.

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Australia, which had been covered to some extent in the technical Press. In a picture of the bridge under construction he said it was interesting to note the mass of staging used, which one did not associate with bridge construction. Although the beam was designed as a cantilever beam so that it could be floated and lifted into position, it was felt more economical to use conventional staging.

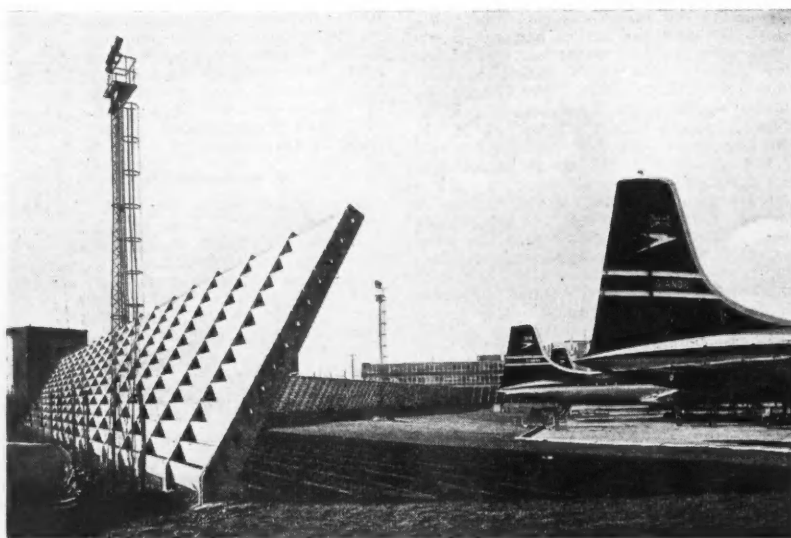
In connection with the central span, of 370ft., those concerned were faced with the deadlock problem, which had predominated. To help in the construction of the bridge they had put the cables outside the section, within the top and bottom flanges, but outside the web. In regard to this length of 370ft. he had been very concerned about friction. Steel saddles were used at the ends in order to determine the friction, and they knew pretty accurately the stresses throughout the length of the beam.

He felt that bridge designers should pay more attention, as indeed many were doing now, to the mechanical side when dealing with bridges. Many of the things that had been done in the past with bearings would horrify the average mechanical engineer.

Mr. Gifford showed some photographs taken during the construction of the bridge, and after it was completed.

Mr. Harris, replying to another speaker, who questioned the economy of a bridge of about 1,000ft. span of the type mentioned as having been built in Belgium, said he could not express views on that, because it was not a scheme that he had investigated in any great detail; and certainly he was very conscious of the difficulties of dealing with such a bridge of 1,000ft. span which had to be formed all the way across. He had put forward the bridge that was built in Belgium as being rather an interesting idea. He had found that extrapolations to larger spans by using coefficients, by multiplying quantities of materials, never gave the right answers. If one were to build a structure which was an adaptation of Mr. Van de Pitte's design, to a span of 1,000ft., it would certainly require some modifications.

(To be continued)



This 1,000ft. precast concrete blast screen has recently been completed in the servicing area of London Airport by the Modular Concrete Co., Bedford, Middx. The screen has dog leg frames, set at centres of 6ft. 4in. bolted down to a continuous concrete footing 2ft. 6in. square in section, and is buried in the ground. The frames are 7½in. wide and have slots cast on each side to hold the precast concrete planks, which are 12in. wide by 1½in. thick.

The River Boards' Association, 15 Great College Street, Westminster, S.W.1, has published its 1959 Year Book, price 5s. (6s. 3d. including postage).

International Construction

BRITISH ENGINEERS VISIT FRENCH SERRE-PONCON DAM

A NUMBER of British consulting engineers and civil engineering contractors recently visited the Serre-Poncon Dam project on the Lower Durance River in the French Alps at the invitation of the Electricite de France.

Situated near the town of Gap, the earth dam will be the largest of its kind in Europe, and will involve the handling of 20,000,000 cu. yd. of material in its construction.

Soil Selection

Two kinds of soils have been selected for the fill: For the impervious core, materials of slight clay content embedded with soft limestone rock (Lias) more or less in a state of decomposition have been chosen, as well as rolled gravels of glaciomarine origin. For the upstream and downstream shells as well as for the transition zones and the drain, alluvial deposits taken from the Durance river bed near the dam site are being used. These materials are used to build up the upstream shell, the transition zones or the drain depending on the perviousness which varies from one pit to another.

The alluvial materials are excavated by means of two 7 cu. yd. draglines, one 2.5 cu. yd. dragline, and two 5 cu. yd. shovels, all electrically powered. Material for the core is extracted by means of an electric 5 cu. yd. shovel. The materials are transported by 34 25 cu. yd. bottom-dump

vehicles, the average output being 33,000 cu. yd. per day, working on a two shift basis of ten hours each.

Dumped from trucks in wide ranges, the materials are spread in regular layers by means of bulldozers, then scarified in order to make them uniform and to remove the large pieces of rock. The maximum sizes of rock authorised are 12in. for the shells and 6in. for the core while the pebbles are used on the faces of the dam.

Theoretically the shell materials are pervious and control of the water content is not necessary. Approximately 2.7 cu. ft. of water is added for every cu. yd. of soil to facilitate the compaction. This moistening is effected by bottom-dump vehicles specially adapted as tank lorries.

The water content of the core materials is carefully controlled. As the in-situ materials are too dry and sufficiently pervious, the horizontal surface of the quarry is irrigated by being separated into 65ft. by 65ft. pools, thus receiving the necessary amount of water to moisten 16ft. thick layers. Excavation can be effected three to four weeks later, after this water has penetrated.

Great modification of the water content after placing is in this way avoided. The specifications call for water content 2 per cent. above the optimum Proctor corresponding to a compaction energy of 8,200ft. lb./cu. ft., in order to limit pore pressure and perviousness.

Three 50-ton pneumatic-tyred Albaret compactors, type C.11, and one 50-ton

spare roller, hauled by crawler tractors, are used for compaction of the materials.

Alluvial materials are laid out in 2ft. thick layers, and compacted by these rollers ballasted to 100,000lb., inflation pressure being 90 p.s.i. The specified density is obtained after four passes, and rolling speed is a 3 m.p.h. maximum. The average dry density obtained for the soil is approximately 140 to 144 lb./cu. ft.

Core Materials

Core materials have to be compacted with greater care; at the beginning this was achieved by means of two double drum sheepfoot rollers, ballasted to 40,000lb. and hauled by crawler tractors running at 3 m.p.h. maximum speed. Before compaction the layers were 10in. thick and eight passes were necessary. By this compaction method, however, it was impossible to reach a sufficient output in comparison with the one obtained on the shells, the more so as the compaction of the core had to be stopped because of bad weather, while the compaction of the shells could go on without difficulties.

In view of this it was suggested by the contractor that the compaction method for the core should be changed to use the pneumatic-tyred rollers instead of the sheepfoot rollers.

By means of a test fill the contractor proved that he was able to obtain at least equal dry densities by using the C.11

(Concluded on next page)



Compaction work proceeding at the Serre-Poncon dam site

International Construction

BRITAIN GETS JAPANESE GAS WORKS CONTRACT

IN association with their Japanese licensees, Humphreys and Glasgow, Ltd., of London have won an order to install an oil gasification plant in Osaka, which will eventually be the largest of its kind in the world.

By the end of this year, four units each making 5,000,000 cu. ft. of town gas a day will be in operation. The total cost of this installation will be about £700,000. Eventually further units will be added to bring the total capacity of the plant to 30,000,000 cu. ft. a day.

The plant, ordered by the Osaka Gas Co., Ltd., for its new Hokko works employs Humphreys and Glasgow's Onia-Gegi process, which enables town gas to be produced from a wide range of hydrocarbons, including heavy fuel oil.

Special equipment exported from Britain will include catalysts, hydraulic automatic control equipment and oil burners. Close collaboration with the Japanese companies, Ishii Iron Works and Okura Trading Company will be maintained during the constructional and engineering stages. The rest of the plant will be manufactured by Ishii Iron Works to Humphreys and Glasgow's designs.

The new plant will be the third Onia-Gegi installation in Japan. Two smaller units, each producing 500,000 cu. ft. of gas per day were recently commissioned at Yaizu and Himeji and are now operating.

The Osaka Gas Co., is the second largest in Japan and supplies three major cities, Osaka, Kobe and Kyoto, with a combined population of 5,500,000. The area is supplied with gas by a high-pressure distribution network, fed from five large gas-producing stations.

C.S.I.R.O. STUDIES BRICK EXPANSION

The Australian Commonwealth Scientific and Industrial Research Organisation has undertaken studies of brick construction work to find out why some clay products, when exposed to moisture, tend to cause faults in buildings unless proper precautions are taken.

The organisation has discovered that bricks begin to expand immediately upon leaving the kiln. With one type of brick produced in Australia, a wall built with bricks fresh from the kiln may eventually expand as much as 2.8 in. per 100 ft. of wall length.

The C.S.I.R.O. advises that bricks be well burnt and allowed to stand as long as possible before use. It has been found that about half of the expansion which takes place over a five-year period occurs within the first six months of building.

Mortars which are rich in lime are preferable to strong cement mortars for building work, and expansion joints should be provided at intervals in the brickwork, the Organisation advises.

AERATED WALL BLOCK CUTS COSTS

A new type of aerated plaster wall block, invented in South Australia, is claimed to cut the cost of building an averaged sized house by about £A125.

Suitable for interior partitions and cavity walls, and for flat roof construction, the block has a wall area equal to nine standard bricks, weighs only one-third as much, and will blend with normal brickwork.

The manufacturers, Ultimate Building Materials, Ltd., of Brompton, South Australia, claim that the blocks can be laid and finished in one-third of the time required to build a similar-sized brick wall.

The company makes a special preparation which is sprayed on the blocks to make them water-repellant.

LARGEST SINGLE-STOREY ARCH-TYPE BUILDING

THE largest single-storey arch type of building for factory use in Australia has recently been completed at Homebush Bay, New South Wales. It has been built for Ralph Symonds, Ltd., makers of plywood panels of extra large size—up to 9 ft. x 50 ft.

The roof area, approximating 18 acres, of corrugated Durasbestos, required material sufficient to meet the needs of more than 600 houses of average size.

The structure features a combination of Gothic and saw-tooth type of arch, and incorporates several unusual design aspects. Rain water, for instance, is carried from the roof by means of a box gutter, at roof-valley level and passes into drain pipes designed to act as structural columns. The water is then fed into large-diameter concrete pipes, cast integrally in the concrete floor of the building and fed into Homebush Bay or the adjacent Parramatta River.

Scottish Factory

This year Ralph Symonds, Ltd. will ship from this £A2m. plant a prefabricated laminated timber factory for erection at Leith, Scotland. Its Scottish subsidiary, Ralph Symonds (Scotland), Ltd., will use the factory for producing plywoods and veneers.

TURKISH OIL REFINERY TO COST £18M.

Mr. Adnan Menderes, Prime Minister of Turkey recently laid the foundation stone of an £18m. refinery at Mersin, in South East Turkey. The project is being financed by three refining companies associated with Mobil International, Royal Dutch/Shell and British Petroleum, whose shares in it will be 56 per cent., 27 per cent. and 17 per cent. respectively.

The Mersin refinery, which will have a capacity of 65,000 barrels a day, will be built by the United Kingdom firm, Foster Wheeler, Ltd., and is expected to go on stream towards the end of 1961.

GHANA TO BUILD £4½M. CEMENT FACTORY?

Ghana's Industrial and Agricultural Development Corporation plans to build a £4½m. cement factory at Bonyere in the western region, reports Barclays Bank D.C.O. from its office in Accra.

The final decision will be taken after discussion with a United Kingdom cement firm and a team of overseas cement specialists who are expected shortly in Ghana.

The Bank adds that it is understood that a survey of this project has been carried out by a German firm and Ghana's Geological Survey Department.

PAKISTAN ORDERS BRITISH TRACTORS

An order for 88 Challenger diesel crawler tractors has been placed with John Fowler and Co. (Leeds), Ltd., by the Pakistan Government.

The tractors, which will be fitted with Marshall hydraulic angledozers will be used for land reclamation, road making and irrigation work by the Department of Agriculture.

LIBYAN OIL PIPELINE CONTRACT

The South Durham Iron and Steel Co., Ltd., have been awarded a contract, worth £1,430,000, by the Esso Petroleum Co., Ltd., for the supply of 100 miles of 30 in. diameter pipes. These will form a new pipeline from the Libyan oilfield to the Mediterranean.

Won against strong Continental competition, this contract is the company's first for steel pipes for North Africa.

ATLAS COPCO EXPAND SERVICES IN RHODESIA

THE Atlas Copco group have merged their Northern and Southern Rhodesian companies into one concern under the title of Atlas Copco Rhodesia (Pvt.), Ltd.

At a party to mark the opening of new premises in Salisbury, Mr. Peter Wallenberg, managing director of the new company, said: "We have established our head office in Salisbury with fully equipped branches at Bulawayo, Lusaka and Ndola to strengthen our position in the Federation and to provide a wider and more comprehensive service to the mining, contracting and manufacturing industries."

The event was attended by the Federal Prime Minister, Sir Roy Welensky; the Swedish Consul to the Federation, Mr. Sven Bouvin; the Swedish Trade Commissioner, Mr. Eric Zetterberg; and the financial director of Atlas Copco, Sweden, Mr. P. Prydz.

LARGE DIAMOND DRILL BUILT IN AUSTRALIA

The Melbourne company, Mindrill, Ltd., have built what is claimed to be the largest diamond drill in the world. It is capable of drilling either vertical or angle holes to depths in excess of 10,000 ft. Initially it will be used for drilling BX size (2½ in. diameter) holes.

The drilling rig will operate in conjunction with an inclinable frame carrying a head sheave 72 ft. from the base, which permits hoisting 60 ft. lengths of rods. Down time during hoisting and lowering rods is thus considerable reduced.

ARCON SCHOOL FOR NIGERIA

An order worth nearly £38,000 has been awarded to Taylor Woodrow (Building Exports), Ltd., London, marketing member of the Arcon Group of manufacturers of prefabricated buildings, for steel-framed buildings to provide a secondary technical school at Port Harcourt, Nigeria.

(Concluded from previous page)

Albaret compactors at 35-ton weight over layers 14 in. thick before compaction. Six to eight passes provided the specified dry density and eight passes were accepted.

The pneumatic-tyred rollers proved successful, and the thickness of the core layers was increased from 10 in. to 14 in. giving a proportionate improvement in the daily output. On the field, the same 50-ton C.11 compactors are used, both on the shells and the core, after adding or removing 10 tons of ballast.

When the core compaction has been completed the surface is smoothed by a smooth-wheel, towed-type roller with a double drum. This is the Albaret sheepsfoot roller without its feet-bearing shells, which are removable.

Other projects inspected by the visitors included various power stations and canals along the Lower Durance River, and among these was the Saint Esteve scheme.

This scheme, near Aix-en-Provence, involves the construction of a 17-mile long canal with 10,000,000 cu. yd. of excavation, of which nearly 6,000,000 cu. yd. will have to be compacted for erecting the canal berms. Numerous types of soils are being met along the canal, and Electricite de France have carried out laboratory as well as in-situ full scale compaction tests with the most typical soils, prior to contractors' tendering. Test dikes had also been built prior to the Serre-Poncon dam construction.

The visit was arranged through A. Long and Co., Ltd., 45 Parliament Street, London, W.1, who earlier in the year had organised a visit for officials of the Electricite de France and French contractors to see the Walton Reservoir contract, where compactors supplied by A. Long and Co., were at work.

International Construction**DURGAPUR STEELWORKS, INDIA****First Stage Completed**

WITH the recent commissioning by the President of India of the first blast furnace at the Durgapur Steelworks, the first stage of the project, comprising in itself an integrated steelworks, has been completed for Hindustan Steel, Ltd.

Situated at Durgapur, West Bengal, the complete steelworks, which will be completed by August, 1961, represents the largest single export order ever obtained by British firms, to the value of about £105m.

The area of the works inside the seven-mile-long boundary wall is about 1,500 acres, and work has involved the moving of some 5,000,000 cu. yd. of earth and the driving of 15,100 piles. An estimated final total quantity of 550,000 cu. yd. of concrete will be used, and the area covered by roofed buildings will amount to 3,500,000 sq. ft. The highest structural steel building will be the melting shop, with a height to the roof apex of 120ft., and the highest plant structure, at 225ft., will be the blast furnace. A 280ft.-high chimney will surmount the coke oven battery, and a coal service bunker, 166ft. high, will be the highest concrete structure.

Some 70 miles of railway track will be constructed on the site, with 20 miles of roadway, and 50 miles of water main and drains. Five natural draught water cooling towers and six induced draught water cooling towers will be provided, and the 232ft.-high blast furnace gas holder will have a capacity of 3,000,000 cu. ft.

To be completed by the end of April, 1960, the second stage will consist of a second coke oven battery, benzol rectification plant, second blast furnace, steel melting shop with three open hearth furnaces, 42in. blooming mill, a continuous billet mill, sleeper bar plant, and oxygen plant.

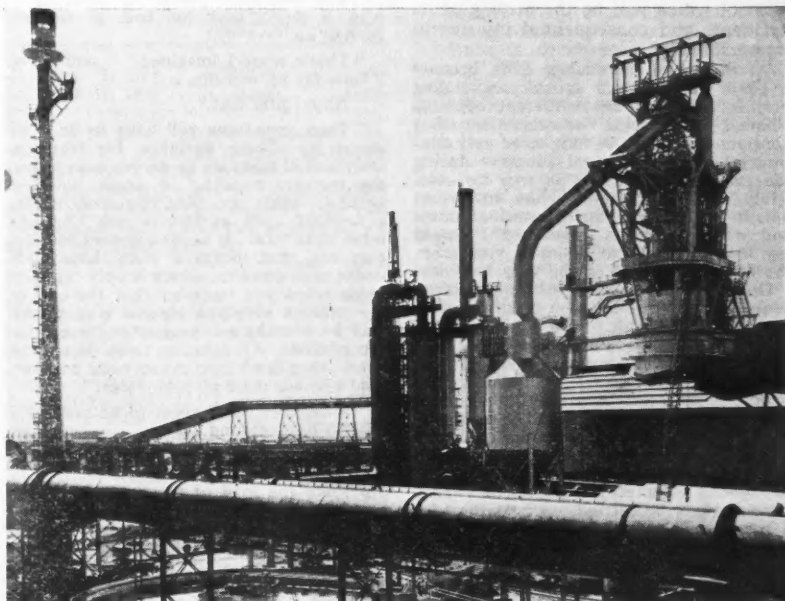
The third stage, due for completion by the end of April, 1961, will comprise a third coke oven battery, third blast furnace, remaining four open hearth furnaces, a 24in. medium section mill and continuous merchant mill.

A special casting shop, wheel and axle

plant, and the remainder of the steel melting shop will constitute the final stage of the steelworks.

The project is being carried out by Indian Steelworks Construction Co., Ltd. (ISCON), a consortium of 13 British firms. These firms are responsible for the following works at Durgapur: Davy and United

poration, Ltd.—open hearth furnaces and steel-making plant, cranes, soaking pits; The Cementation Co., Ltd.—civil engineering, except coke ovens and power plant; The British Thomson-Houston Co., Ltd.—electrical work; The English Electric Co., Ltd.—electrical work; The General Electric Co., Ltd.—electrical work; The Metropolitan



No. 1 blast furnace

Engineering Co., Ltd.—rolling mills, wheel and axle plant, foundry and central engineering maintenance shop; Head, Wrightson and Co., Ltd.—blast furnaces and iron-making plant; Simon-Carves, Ltd.—coke ovens and by-produce plant, power plant, steam and gas distribution; The Wellman Smith Owen Engineering Cor-

poration, Ltd.—electrical work; Sir William Arrol and Co., Ltd.—cranes and structural steel; The Cleveland Bridge and Engineering Co., Ltd.—structural steel; Dorman, Long (Bridge and Engineering), Ltd.—structural steel; and Joseph Parks and Son, Ltd.—structural steel.



Melting shop area

Talking of Safety

by

"DRAGEE"

UNLIKE the average factory, which delivers its produce in a steady flow, a building or constructional engineering job has a definite beginning, middle, and end. Thus the course of a contract is like a story, well or badly told as the case may be, and whether its outcome is a happy one or not depends upon several factors, not the least of which will be the history of its accidents and consequential injuries to its personnel.

At that point the analogy ends, because a good story with a satisfactory ending may follow upon an indifferent opening, whereas the success (or otherwise) of a contract is likely to be influenced very considerably by its state of progress during the early days. This is as true for relatively small but nevertheless important details as it is for major considerations, and where safety is concerned I would say that attention to detail is vital from the first "blow-up" of the very first day.

One important piece of work which often begins badly is the erection of an ordinary metal scaffold, and it was in the course of a tour round a new site in the East Midlands that I came across an example of this kind of neglect. Fortunately the structure had not progressed above the level of its first uprights, and it was possible to take corrective action without seriously interrupting the work. The scaffold was being erected along two walls of an existing concrete structure to enable some work to be carried out near the top. It was a putlog scaffold, tied to a row of uprights behind the openings in the walls. At that time the work was being carried out by Bob Roberts, an experienced scaffolder (who should have known better), and two other men. Bob came towards me as I stood looking at the scaffold. He looked rather unhappy—possibly he had seen my expression.

"Dragee," who is a practising safety engineer, would welcome subjects for discussion in this column. All names of persons mentioned in these discussions are entirely fictitious. Questions of law are expressed as the author's personal opinions and are not claimed to be authoritative.—EDITOR.

"Something wrong?" he asked tentatively.

I nodded. "I'm afraid there's a good deal wrong. This isn't your style, Bob—what's happened?" When he hesitated I made a guess and went on: "All right—so you arrived here a bit late and found the job already started. I'm afraid it won't do."

"Well, we were pressed for time. Anyway, it didn't look too bad, so we just carried on."

"That's what I imagined," I said dryly. "How far up will this go?"

"About fifty feet."

"Then something will have to be done about it. These uprights, for instance. Only half of them are on decent base plates, the rest are standing on rough, made-up ground. What you must remember is that a scaffold such as this is just like any other structure. It needs a proper foundation and that means a metal base plate under each upright—which is only common sense when you consider that the end of the tube is simply a narrow ring, which may be exerting a considerable force upon the ground. All columns must be treated alike—they don't help to carry one another. And why are there no sole plates?"

"Well, they don't seem to be necessary on this hard ground."

"The ground may be hard but it isn't even, and the idea of the sole plate is to distribute the load of the base plate over a greater area. That is why it is necessary for the sole plate to lie uniformly in contact with the ground for its full length. Also, when the scaffold is standing on hard material such as this, the sole plate increases the amount of friction between the ground and the base of the upright."

"Is there a standard size of sole plate?"

"Not really: it should not be less than 9 in. wide and 1½ in. thick—and the longer the better. A single plate should carry at least two uprights, with or without rakers attached."

"So ordinary scaffold boards do?"

"Yes, but they are liable to get damaged

unless they are laid very carefully. I prefer to use boards which are not quite good enough for platforms or gangways. There is a British Standard (B.S. 1139:1951—Metal Scaffolding) which refers to base plates, however, and this says—amongst other things—that a steel base plate must have a level surface of not less than 36 sq. in. in area, and it must be at least ⅝ in. thick. You will see that our base plates are slightly thicker than that."

I pointed to an upright standing on a brick. "That must never be allowed to happen," I said. "Bricks crush very easily under a load of that kind. And here is another thing: always arrange your uprights to lean slightly inwards. It helps to give stability to the scaffold when it gets higher. In fact the whole success of your scaffold as a structure depends upon how you start. And don't imagine these are all my own bright ideas. You will find them in Regulation 10 of the Building Regulations—and I happen to know that there is a fresh copy hanging up in your mess hut at this very moment. In fact I put it there."

(Concluded from page 328)

that the country is proceeding through the earlier phase of a trade-cycle recovery. There should be some way to go before restraining measures are required. The position today is different from five years ago, since the present consumer goods boom is likely to reach its peak before any investment goods boom.

If we do as well as we have done in the last five years, average living standards will have risen by one-third by 1970. Rising living standards mean that buildings become obsolescent faster, and doubts have already been expressed as to whether the present housebuilding rate is sufficient to cope with this factor, the relief of overcrowding, and the population increases forecast by the Registrar General—in the next 10 years the number of people in Britain will rise by rather more than two million.

The road and hospital programmes (both long-term) should soon be gathering more momentum, and there are welcome signs that industrialists are thinking once again in terms of more factory space.

It is to be hoped that in 1960 no barriers, artificial or otherwise, will hinder the industry from doing its job. If the industry can be assured of a steady, uninterrupted flow of work, its costs and prices will reflect the benefit to the country as a whole.

FOR THE DIARY

Jan. 21.

Meeting of the Institution of Civil Engineers at Great George Street, London, S.W.1, at 5.30 p.m. Informal discussion on the development of traffic engineering in London. Introduced by A. J. H. Clayton.

Jan. 22.

Meeting of the North-Western District of the Institution of Municipal Engineers at the Municipal Annexe, Dale Street, Liverpool, at 2.45 p.m. Paper: "Urban Motorways in Germany," by H. T. Hough, J. Drake, D. M. McKellen and R. H. Ogden.

Jan. 25.

The Faculty of Building. Meeting at the Building Centre, Store Street, London, W.C.1, at 7 p.m. Film, lecture and demonstration of Kwikform equipment.

Jan. 28.

Yerbury Foundation Lecture at the T.U.C. Hall, Great Russell Street, W.C.1, 6.30 p.m. "The Relation between Design and Speed of Building." An American architect and a British builder will speak.

Feb. 2.

Meeting of the North-West Branch of the Reinforced Concrete Association at the College of Technology, Sackville Street, Manchester, at 6 p.m. "The Joint Problem in Precast Reinforced Concrete Structures," by J. A. Derrington, B.Sc.(Eng.), M.I.C.E., A.M.I.Struct.E.

Meeting of the Midlands Counties Branch of the Reinforced Concrete Association at the Birmingham and Midland Institute, Paradise Street, Birmingham, at 6 p.m. "The Design and Construction of the Plymouth Market Hall," by A. P. Mason, B.Sc., M.I.C.E., M.I.Struct.E.

Royal Institute of British Architects, 66 Portland Place, London, W.1, 6 p.m. President's address to students. Criticism by Philip Powell of work submitted for prizes and studentships.

Feb. 4.

Meeting of the East Midlands Association of the Institution of Civil Engineers at the Electricity Showrooms, Leicester, at 5.45 p.m. "Some Recent Advances in the Manufacture of Large Prestressed Concrete Units," by J. H. Vince, A.M.I.C.E.

Feb. 5.

Meeting of the Institution of Highway Engineers at 11 Upper Belgrave Street, London, S.W.1, 5.30 p.m. Paper: "Some Modern Developments in Highway Bridge Design," by C. S. Chetty, B.Sc., M.I.C.E.

Annual dinner and dance of the Contractors Mechanical Plant Engineers (Midlands Branch) at the Chesford Grange Hotel, Kenilworth.

Feb. 9.

Annual dinner of the East Midlands Associa-

tion of the Institution of Civil Engineers at Nottingham University.

Feb. 17.

Meeting of the Reinforced Concrete Association at 11 Upper Belgrave Street, London, S.W.1, 6 p.m. "Lightweight Concrete Aggregates," by Prof. R. H. Evans, C.B.E., D.Sc., Ph.D., M.I.C.E., M.I.Mech.E., M.I.Struct.E.

Meeting of the London Building and Engineering Contractors Accident Prevention Group at 97 Horseferry Road, London, S.W.1, 2.30 p.m. "Erection and Dismantling of Heavy Plant and Equipment"

Feb. 17 and 18.

General building safety training course at the Merseyside Building Safety Training Centre, Stopgate Lane, Liverpool, 9.

Feb. 23.

Institution of Plant Engineers. Meeting at the Royal Society of Arts, John Adam Street, London, W.C.2, at 7 p.m. "Some Problems in the Design of Large Rocket-Engine Test Beds," by R. H. B. Forster, B.Sc., M.I.Mech.E., chief engineer, and L. Breen, senior engineer, British Oxygen Wimpey, Ltd.

March 4.

Institution of Highway Engineers. Meeting at the Institution of Structural Engineers, 11 Upper Belgrave Street, London, S.W.1, at 5.30 p.m. "New Methods of Automatic Traffic Control," by E. Bailey and E. Thorpe, Automatic Telephone and Electric Co., Ltd.

DIRECT LABOUR IN BIRMINGHAM

Five Years' Development of the Building Department

Controversy invariably surrounds direct labour operations by local authorities, and Birmingham is no exception. The following extracts from a report presented to the City Council recently by the House Building Committee indicate the growth of building by direct labour in that city.

FOLLOWING the Council's decision of April 13, 1954, to set up a Direct Labour Building Department, organisational work was put in hand in the October. A five-year plan was agreed, and operations on the first contract commenced in April 1955.

It will be remembered that the Department started from nothing. A completely new and self-supporting Department had to be built, and it is therefore both interesting and necessary to compare what has been achieved with that which was originally planned.

Recruitment of Operatives

Date	Plan	Actual
March 31, 1955 ...	—	3
March 31, 1956 ...	100	107
March 31, 1957 ...	200	239
March 31, 1958 ...	260	327
March 31, 1959 ...	330	449
March 31, 1960 ...	400	—

The original plan envisaged the Department beginning its building activities with the construction of two- and three-storey dwellings, and moving into other fields as and when considered opportune. The

basis was made at the end of the third and fourth operational years, revealing the following:

	Total Turnover on contracts	Assessed Debit Balance
At March 31, 1958 ...	£ 959,000	£ 15,000
At March 31, 1959 ...	1,661,000	9,000

It will be noted that, on assessment, the overall deficit has been reduced by £6,000 in the twelve months period.

Against the last figure of £9,000, certain assets can be taken into account, thus offsetting some portion of this assessment of overall deficiency, such as:

	Credit £	Debit £
Balance from Revenue Account	694	9,000
Value of Heavy Plant in excess of book value ...	1,500	
Value of Light Plant in excess of book value ...	1,500	
Value of Furniture and Equipment in excess of book value	1,000	
	4,694	
		£4,306

Turnover

Phase	Plan 1954	Revised Assessment August, 1955	Actual
	£	£	£
To March 31, 1955 ...	—	—	—
1st year, 1955/56 ...	50,000	130,000	109,000
2nd year, 1956/57 ...	150,000	230,000	336,000
3rd year, 1957/58 ...	200,000	340,000	514,000
4th year, 1958/59 ...	300,000	450,000	701,896
5th year, 1959/60 ...	450,000	500,000	—

Department now carries out a wide variety of work. A reputation for producing, in general, a high quality product has been established, and the Department has frequently been complimented on this.

Handover of Dwellings

April, 1955, to December 31, 1955...	4
Year 1956 ...	115
Year 1957 ...	207
Year 1958 ...	225
Year 1959 ...	—

Finance: Contract Accounts

It must be borne in mind that all costs faced by the Department have to be recovered in these accounts. These, of course, include charges levied in respect of Central Administration. Light plant and tools are charged to contracts in the form of an overhead rate, and heavy plant is charged at an hourly working rate.

It was recognised that a new department, starting from nothing, would need time to settle down before it became an economic building unit. The initial costs of setting up the Department would have also to be taken into account. It was agreed that losses on early contracts must be expected such losses being offset by later savings. The five-year plan therefore envisaged that the Department would have recouped all initial deficiencies by the end of the fifth operational year. In order to arrive at any conclusion regarding this, it is necessary to take into account not only work on which final accounts have been agreed, but also other completed contracts and work in hand, on a valuation basis.

An assessment of the position on such a

From the foregoing, it would appear that the Department has an excellent chance not only of recouping all initial deficiencies at the end of five years but also of being able to show an overall saving. There has of course, been a reduction in tender prices over the past three or four years and it would seem likely that the existence of the Department has had some bearing on the degree of reduced prices, which no doubt benefits the Corporation in all their building activities.

Direct Labour is no new departure on the part of the Corporation, and in fact it has been successfully used by major Departments for the last fifty years.

Workmanship

The observations of the Housing Manager upon the workmanship of the Direct Labour Building Department may be of interest, namely:

- (a) When the Direct Labour Building Department had been in operation for about year, I was able to say that in my opinion their standard of workmanship and finish was superior to that of any contractor producing houses for the Corporation.
- (b) This was followed by an all-round progressive improvement in standards. This may well have been due to the stimulus of the standard set by the Department.
- (c) As a result of this improvement, it is no longer possible to say that the quality of the Department's work is above that of every contractor, but it is true to say that its work ranks with

that of the best private contractors and is very satisfactory from the Housing Management Committee's point of view."

The City Architect has also made observations as follows:

"Since it commenced building operations in 1955, the Direct Labour Building Department has carried out, and is carrying out, work for which schemes have been prepared and supervised under my direction, to a value of over £4m.

The contracts concerned cover house building (including multi-storey blocks), new school building and extensions, general work (such as Northfield Fire Station) and many minor works.

To date, the building work carried out has been of good quality both in general construction and finish and would indicate that the Direct Labour Building Department is a competent building contracting organisation working to high standards."

Office and Depot

In the initial plan it was agreed that temporary accommodation should be found, suitable for the Department's requirements for the first five to eight years. A portion of the Public Works Department's Depot in Rotton Park Street was taken over for this purpose in January 1955. In view of the growth of the Department in advance of original plans, the future possibilities of the Department, and the urgent need for further accommodation and provision of workshops, steps have been taken to acquire land in Tyburn Road which is surplus to the requirements of The Public Works Department and the Council approved proposals in this connection on January 6, 1959. The planning of suitable development of this site is proceeding.

Conclusion

In view of the facts outlined in the foregoing paragraphs, the House-Building Committee look forward with confidence to the further development of the Department.

L.M.B.A. TRAINING SCHEMES

The L.M.B.A. have prepared for the benefit of their members a leaflet giving, in the form of "questions and answers," details of the training schemes for boys which are administered by the Association.

Two years ago some 33 firms were training approximately 100 young school leavers under these schemes; the present figure is over 100 firms training about 350 boys.

"The fact that these numbers have trebled in this period is sufficient indication that such a training scheme, organised centrally by an employers' association which can provide its members with services, advice and guidance, has fully justified itself" comments Mr. F. H. Towle, M.A., clerk to the Board of Administration.

TERMS OF AMALGAMATION

Agreement in principle has been reached between representatives of the Institution of Civil Engineers and the Institution of Municipal Engineers as to the terms upon which amalgamation might take place. The full terms are to be submitted to members for their consideration.

Men and Movements

DR. C. A. HART, C.M.G., T.D., D.Sc.(Eng.), Ph.D., Rector and Principal of the Nigerian College of Arts, Science and Technology, has been appointed to succeed **Mr. G. H. A. Hughes**, O.B.E., as director of the L.M.B.A. He will take up his duties as director designate at the beginning of April and will assume full responsibility on September 1, when Mr. Hughes retires.

Dr. Hart has been Principal of the Nigerian College since 1954, and is a Member of the Institutions of Civil and Mechanical Engineers, a Fellow of the R.I.C.S., and an Associate Member of the Institution of Structural Engineers. He has been actively concerned in building research for most of his life and represented India at the International Conference on the subject in London in 1951.

Hyde Reinforced Concrete Co., Ltd., have appointed **Mr. D. E. Evans** to the board.

Due to the pressure of private work, **Sir Thomas Bennett** has resigned from the chairmanship of Crawley Development Corporation.

The new managing director of Detel Products, Ltd., is **Mrs. Vivienne D. Johnson**, who has been with the company for 20 years. She became secretary in 1941 and a director in 1949.

Mr. J. E. A. Heale, formerly works manager of the Motherwell works of Metropolitan-Vickers (now A.E.I. (Manchester), Ltd.), has joined Associated Electrical Industries (Woolwich), Ltd., as general manager of works.

The assistant general manager of British Paints, Ltd., **Mr. Norman Ellis**, has been appointed general sales manager of British Paints, Ltd., in succession to **Mr. J. C. Hanna**, who has retired.



DR. HART

The chairman of Babcock and Wilcox, Ltd., **Mr. W. Lionel Fraser**, will retire from the board at the end of May. **Sir Kenneth Hague**, deputy chairman will take over the chairmanship, and will be succeeded as deputy chairman by **Sir Reginald Verdon Smith**.

Chamberlain Plant, Ltd., have appointed **Mr. J. McQuaker** manager of the company's depot at Haverfordwest, Milford Haven.

Dr. C. J. Stubblefield, F.R.S., has been appointed director of the Geological Survey of Great Britain and Museum of Practical Geology; he will succeed **Sir William Pugh**, O.B.E., D.Sc., Ll.D., F.R.S., who retires on July 28.

Lt.-Col. James Leach has retired from the chairmanship of Currall, Lewis and Martin, Ltd., Birmingham, but will retain his seat on the board. He has been succeeded by **Mr. Archibald Shaw**, formerly chief engineer and a director of Tarmac Civil Engineering, Ltd.

Erskine, Heap and Co., Ltd., have announced the retirement of **Mr. E. Jackson**, A.M.I.E.E., as London manager after 40 years in that post. He will retain his seat on the board of the company. He has been succeeded by **Mr. E. W. Batho**, A.M.I.E.E., deputy London manager.



E. W. BATHO

Blaw Knox, Ltd., have announced the appointment of **Rear-Admiral A. J. Tynedale-Biscoe**, C.B., O.B.E., M.I.Mech.E., F.R.Ae.S., **Mr. C. R. Banks**, **Mr. J. Conacher**, A.M.I.Mech.E., **Mr. J. C. Grist** and **Mr. H. Houghton**, A.M.I.Mech.E., as divisional directors.

Mr. J. B. Selby has been appointed manager of the export department of Turners Asbestos Cement Co., Ltd. He joined the company in 1958, and was appointed manager, pressure pipe sales.

The Eastern Region, British Railways, have appointed **Mr. A. A. Harrison**, chief freight officer, British Railways Central Staff, British Transport Commission Headquarters, as assistant general manager, Eastern Region. Mr. Harrison will succeed **Mr. S. G. Hearn**, who is retiring.

Goodyear Tyre and Rubber Co. (Gt. Britain), Ltd., have announced that **Mr. A. S. Bishop**, chairman of the company, will retire from active connection with the company on January 31, 1960. He will continue his long association with the firm by remaining on the board as a director. Mr. Bishop joined Goodyear in 1916 and was later appointed in charge of the commercial tyre department. In 1933 he became general sales manager.



A. S. BISHOP

The Metallurgical Equipment Export Co., Ltd., have announced that **Mr. D. F. Campbell**, who was formerly chairman, has been appointed president, and the chairmanship will be held in rotation by the managing directors of the companies constituting the consortium. **Mr. R. B. Potter** has been appointed chairman for the next two years, with **Mr. P. Wrightson**, O.B.E., as deputy chairman for the same period.

Mr. A. E. Osborne, London office manager for McCall and Co. (Sheffield), Ltd., has recently been appointed a director of the subsidiary company, McCalls Macalloy, Ltd. Mr. Osborne, who has been with McCalls for 24 years, is a member of the Council of the Reinforced Concrete Association and also a council member of the Prestressed Concrete Development Group of the Cement and Concrete Association.

New directors of Tarmac, Ltd., are **Mr. R. W. Oates**, F.C.W.A., **Mr. S. W. Sangwin**, and **Lt.-Cmdr. G. C. Hans Hamilton**, C.B.E., (not Mr. G. C. H. Sangwin, as reported in last week's issue). All three are members of the board of Tarslag, Ltd., being respectively secretary, joint managing director and chairman of that firm.

Organisational changes announced by Mobil Oil Company include the appointment of **Mr. B. R. Fraser** as manager of a new manufacturing department to be located in the head office in London. Mr. Fraser, who is at present the manager of the company's refinery at Coryton, Essex, joined Mobil in 1952 from the Burmah Oil Company where he had been manager of the Digboi Refinery. **Mr. J. W. Bartholomew**, at present assistant refinery manager at Coryton, succeeds Mr. Fraser, and **Mr. C. E. Bean**, operating superintendent, has been appointed assistant refinery manager.

Mr. C. D. Wild has been appointed service manager at the Clay Cross branch of Bowmaker (Plant), Ltd., at Willenhall. The company have also announced the appointment of **Mr. V. L. Mullowney**, B.Sc., A.M.I.C.E., as their area manager for South Wales. Prior to joining Bowmaker last year, Mr. Mullowney was employed by the Forestry Commission and from 1956 was directorate engineer for Wales.

Mr. J. E. C. Bailey, C.B.E., M.I.Ex., chairman and managing director of Baird and Tatlock (London), Ltd., and Hopkin and Williams, Ltd., will leave the United Kingdom by air on January 30, in order to visit the companies' branches, agents, representatives and customers throughout East, Central and South Africa. The tour will include visits to Nairobi, Ndola, Salisbury, Bulawayo, Johannesburg and Durban, and will help to promote the export of scientific instruments and laboratory apparatus and reagents to these areas.



During 1959 Mr. Gastinger of The Hanger Motor Co., Ltd., of Bromsgrove, one of the J.C.B. distributors, sold over 50 J.C.B. Hydra-Digger/Loadalls and to mark the achievement he was recently presented with a gold watch by Mr. J. C. Bamford, seen here on the left. On the right is Mr. J. Skeldon, J.C.B. sales manager. J. C. Bamford (Excavators), Ltd., report that the sale of these machines has reached an all time record

WINTER WORKING IN SCOTLAND

"More Positive Approach Needed"

A SUB-COMMITTEE of the Ministry of Works Joint Advisory Panel for the Building and Civil Engineering Industries in Scotland, under the chairmanship of Mr. R. S. Gray, a past-president of the Scottish National Building Trades Federation (Employers), have been considering ways and means of avoiding interruptions of construction work during winter weather.

Their finding is that, although contractors do, on occasion, take special steps to avoid stoppages, there is, in Scotland, no general adoption of the techniques which have been recommended in various publications on aspects of winter working; and that there is need for a more positive approach to the problem.

The sub-committee note that, in Canada and certain European countries, winter construction is made possible only by deliberate planning of work in preparation for adverse conditions. They conclude that, even in the less arduous conditions of the Scottish climate, proper planning and site organisation offer a greater prospect for improvement than any single expedient undertaken to prevent immediate damage to work in progress.

Single Manual

In particular the sub-committee recommended that all the advice and technical information available should be brought together in a single manual, or Code of Practice, and adopted by the industry as a guide to future practice. The general scope of such a manual should include the following:

Planning and organisation for winter conditions; scheduling of contracts to minimise outdoor work in the coldest

months; maximum completion of access roads, excavations, etc., before the onset of frost; provision of temporary water supply, power and lighting; under-cover storage for materials and tools and shelter for workmen (including continuation of work under polythene tents); also the provision in readiness of all special equipment, including heating appliances and materials, required in times of rain, frost or snow.

One of the relevant factors to which the committee draw attention is the forecast service of the Meteorological Office available to builders. The sub-committee recommend the use of Ministry of Works Advisory Leaflet No. 40 (Weather and the Builder) in this connection and, in addition, lists the following publications which are available:

National Building Studies Bulletin No. 3 (Concreting and Bricklaying in Cold Weather).

Ministry of Works Advisory Leaflets No. 7 (Concreting in Cold Weather), No. 8 (Bricklaying in Cold Weather), and No. 41 (Frost Precautions in Household Water Supply).

Cement and Concrete Association: Man on the Job Leaflet No. 19 (Concreting in Cold Weather).

Cement Marketing Co. Leaflet (Concreting in Cold Weather with "417" cement).

Building Research Station Digest No. 96 ("Frost Proofing" Additives for Mortars).

Division of Building Research, National Research Council (Canada): Better Building Bulletin No. 6 (Winter Construction).

German Federal Ministry for Housing, Technological Committee's Suggestions for the Preparation and Carrying-out of Winter Construction, 1955 Edition (Abridged translation in Building Research Station Library Communication No. 778, not published).

O.E.E.C. Report—The Problem of Winter Construction: Techniques observed in Sweden and Denmark (in French).

Copies of the report can be obtained from the Secretary of the Panel, 122 George Street, Edinburgh, 2.

REDUCING COST OF BUILDING

L.M.B.A. President's Warning

"EVERY effort must be made to reduce the cost of building but care must be taken to ensure that the return for our efforts is sufficient to enable us to organise our businesses efficiently," states Mr. K. J. Pearce, president of the London Master Builders Association in a foreword to the council's report to be presented at the annual general meeting of the Association to be held in London next week.

Mr. Pearce says that with record achievements to its credit last year and a forecast by the Minister of Works that they should be even busier in 1960, the building industry could look forward to a period of steadily expanding production and great activity in the years ahead. Steel production was increasing and they were promised a substantial increase in brick deliveries, while new materials were being developed in an almost bewildering variety.

"Since the end of the war, the industry has suffered from abrupt changes in Government policy but, in the circumstances of the time, the need for such changes is unlikely in the foreseeable future," he continues. "So neither the large, medium-sized, nor small builders are likely to be short of work. If we take advantage of modern techniques and of the services available through the Association we can play a vital role in increasing the efficiency of our industry."

New Spirit Abroad

"The building industry always has, and always will have, its problems. Happily,

a new questioning spirit is abroad. Old beliefs are being re-examined; new ideas are being thrown into the pool. This is happening not only on the employers' side of the industry, for it is encouraging to see that the operatives have been conferring to consider the effect of new techniques on the craft side of the industry. Such a spirit can only do good and will encourage the continuance of the good relations which exist within our industry today.

"The L.M.B.A. comes in for its share of praise and blame in the technical papers and, on the whole, approval exceeds the disapproval. Where we are doing our job, praise is given; where we are not, this is made clear and we should heed such criticism. Our day-to-day activities are regularly chronicled and our occasional incursions into the National Press with events such as our luncheon to the Lord Mayor and the presentation of the L.M.B.A. medals keep us in the public eye.

"Two of our members will be serving as National Federation officers next year, a unique event in itself. We wish Mr. D. E. Woodbine Parish success in his year as president, and we look forward to entertaining our friends from the other regional federations in July. We shall also be watching and encouraging Mr. L. J. Holloway in his progress to the chair."

The first International Congress on Metallic Corrosion is to be held at the Imperial College of Science and Technology, London, from April 10-15, 1961.

N.F.B.T.E. PRESIDENT SUGGESTS FOUR WAYS TO BETTER BUILDING

SPEAKING at the annual general meeting of the Eastern Federation of Building Trades Employers, held in Cambridge last week, Mr. T. V. Prosser, national president, said:

"The value of new construction orders placed last year is likely to show a substantial increase over 1958, and the new index recently introduced by the N.F.B.T.E. confirms that the volume of work at present under construction is also appreciably higher than it was last year.

"In this atmosphere of buoyant anticipation, however, it is my duty to strike a note of caution. The Chancellor of the Exchequer has made it abundantly clear that rising output together with near-stable prices are essential if the economy is to expand without inflation.

"In seeking ways of responding to the Chancellor's appeal I am not going to advocate the cutting back of prices just for the sake of it. We in the building industry have been passing through a period of cut-throat competition and now there is an urgent need for a restoration of sanity in bidding for new work.

"Nevertheless, genuine price reductions can be achieved in four ways. They are:

"(1) An immense improvement in the full design and planning of our buildings—full documentation before work starts on the site—a policy to which more lip-service is paid, alas, than to which effective implementation is given. I advise all builders, if they haven't got all they require in the way of drawings and other information, to refuse to start the job until they have. The Federation will fully support their action.

"(2) A steadily increasing volume of materials. We look to the manufacturers to develop their output, by extending capacity if need be, and by improving their methods, so that the irksome and costly delays experienced during 1959 do not recur.

"(3) By taking full advantage of management and work study courses to bring ourselves and our staffs to a high pitch of efficiency.

"(4) By making more land available for building. The annual allowance is quite inadequate for the demand made on us. More land should be allocated for residential development and land held by local authorities for which only illusory, if any, plans exist should be released to private enterprise so that we can get on with the job."

SAVING CONCRETE IN DAM CONSTRUCTION

Prestressing techniques, it is reported, are saving 45 per cent. in concrete in the Catagunya Dam, which is being built across the Derwent River, for the Hydro-Electric Commission of Tasmania.

The amount of concrete required has been reduced from 200,000 to 110,000 cu. yd. by using the prestressed type of construction which anchors the concrete to the foundation rock. The method is estimated to have saved £A200,000 on the project.

Specialist contractors on the undertaking are working in collaboration with M. Andre Coyne, the French consultant.

IH OIL FIELD-PIPELINE UNITS

Three new International construction equipment units for oilfield and pipeline work have been announced by International Harvester Export Company in Chicago. The rigs, built around an International TD15 crawler, are two International Superior sidebooms, and a slush pit tractor.

PLANS FOR FIRST NATIONAL HOMES WEEK

THE Federation of Registered House-Builders, which is affiliated to the N.F.B.T.E., is to sponsor a National Homes Week from March 25 to April 2. The object will be to encourage home ownership and give expert advice to the industry's customers and potential customers, to stimulate healthy competition between house-builders in providing well-designed, soundly constructed houses at economic prices and to encourage manufacturers and suppliers of household goods and components to provide the widest possible choice and the fullest information to an expanding market.

How Builders Can Help

The Federation has urged its 1,000 members to give their utmost support to the week by taking, where appropriate, the following action:

Ensure that all sites are as clean and tidy as possible;
place notice boards on approach roads giving the name of the building contractor, details of his registered houses and clear directions to show houses;
provide show houses with ample supplies of a Federation leaflet explaining the National House-Building Registration Council's scheme;
co-operate with local builders' merchants and retailers supplying furniture and equipment for show houses so that notices drawing attention to the new houses are displayed on counters and in shop windows, and
organise local conferences, meetings and brains trusts, at which questions on housing topics from members of the public will be answered by experts.

The Federation has also invited 50 trade and consumer organisations to inform their members of the week so that they may have the opportunity of increasing their information services to the public by co-ordinating their efforts with those of the Federation.

Apart from the special events which registered house-builders will organise locally, the Federation will be organising meetings and conferences to arouse national interest.

OPENCAST CUTS

"A Difficult Decision"

Speaking in London last week, Sir James Bowman, chairman, National Coal Board, said it was proposed to reduce coal output this year by 11,500,000 to 12,000,000 tons.

Opencast production would be reduced by 4,000,000 tons to a total of 7,000,000, which was less than half the output that could have been produced. To achieve this, no new contracts were being let as work finished on existing sites.

Opencast output was very profitable and the decision to cut it was a difficult one for the board, said Sir James. But there would have been serious social hardship to the mining community if opencast had been allowed to continue at its 1959 level. As it was, this contraction would involve some redundancy among staff of the opencast executive, though the board would do all they could to minimise this.

RISING HOUSE PRICES

It is reported from Nottingham that because of land prices a three-bedroom house which cost £2,700 to build 12 months ago is now costing up to £200 more in that area. A large firm of building contractors in the area have expressed the view that the peak of rising property prices is not yet in sight.

INTERNATIONAL ASSOCIATION FOR SHELL STRUCTURES

THE International Association for Shell Structures has been formed with the object of helping the development of design and construction techniques of shell structures by organising meetings and congresses to facilitate the exchange of ideas.

It is planned to hold a colloquium on "Precast Shells" next autumn, 1960. Warsaw or Dresden are the most likely venues for the meeting. A meeting is also scheduled to be held in September, 1961, in Delft (Holland), dealing with "Experimental Research on Shell Structures," to be followed immediately by a third one in Brussels, on "Approximate Methods of Calculation."

Executive Council

The I.A.S.S. activities will be organised by an executive council, a third of which will be renewed every two years. In order to ensure the international character of the Association, only two members of the same country may be elected simultaneously.

The present constitution of this Council is as follows: E. Torroja (Spain), president; A. L. Parme (U.S.A.) and W. Olszak (Poland), vice-presidents; F. Levi (Italy), treasurer; A. Aas-Jacobsen (Norway); A. L. L. Baker (Gt. Britain); N. Esquillan (France); A. M. Haas (Holland); R. S. Jenkins (Gt. Britain); K. W. Johansen (Denmark); O. D. Oniashvili (U.S.S.R.); A. Paduart (Belgium); H. Rühle (German Democratic Republic); W. Zerna (Federal Republic of Germany); F. del Pozo (Spain), secretary.

Further details regarding membership may be obtained from the Secretariat of the International Association for Shell Structures, Alfonso XII, 3, Madrid (7), Spain.

LONDON-YORKSHIRE MOTORWAY Draft Scheme for Second Section

The Minister of Transport, Mr. Ernest Marples, has published a draft scheme for the second part of the London-Yorkshire Motorway.

The proposed route of this new 86-mile extension of M.1 runs roughly northwards from Crick, near Rugby, through Northamptonshire, Leicestershire, Derbyshire and Nottinghamshire and ends in the West Riding of Yorkshire at a junction with the Doncaster By-pass, which is due for completion in June, 1961.

Through Leicestershire the route follows the "compromise" line proposed by the Leicestershire County Council as an alternative to two earlier proposals which met with strong objections on agricultural and amenity grounds.

The Minister intends to publish as soon as possible his proposals for an extension of the Motorway in the West Riding towards Sheffield and Leeds, and for a spur from Catthorpe in Leicestershire to join ultimately with a Birmingham to Lancaster Motorway.

It was also announced recently that Mr. Marples has decided not to proceed with the construction of an experimental over-bridge, using Bailey bridge material, at the "Toby Jug" intersection on the Kingston By-pass.

A further and detailed examination has revealed that the idea of taking two lines of traffic over this intersection on Bailey bridges is open to objections on grounds of amenity and that a temporary construction would not be justified in relation to its cost. It is also likely that a project of this kind would not have the advantages from the point of view of traffic and safety which preliminary consideration had shown that it might possess.

A report on the Symposium on the "Living Town" may now be obtained from the Secretary of the Royal Institute of British Architects, 66 Portland Place, London, W.1, price 7s. 6d., post free.

Obituary

MR. ARTHUR MONK, M.I.Struct.E., chairman and joint managing director of A. Monk and Co., Ltd., died suddenly on Saturday, January 9.

Mr. Monk, who was 67, founded the building and civil engineering firm that bears his name as a small private construction firm in 1920. Since then the company has grown until it has become one of the largest contracting firms in the United Kingdom.

Arthur Monk, who started as a bricklayer, became well known for his great philanthropy and gave large sums of money to charity and to the welfare of his employees. Recently he made a donation of £10,000 to the Manchester College of Technology, where he had received his early training as a young student.

He was keenly interested in Local Government affairs and in politics, and his activities included the chairmanship of the Newton Division Conservative Association, a post he had held since 1947. He was also a long-serving Lancashire County Councillor and had held a Conservative seat for the Winwick Ward for the past nine years.

It is also with regret that *The Contract Journal* records the death of the following: Mr. Norman Billington, aged 47, surveyor and architect to Lotheringland (Suffolk) R.D.C.

Mr. L. L. Baldwin, aged 88, former surveyor to Coalville (Leics.) U.D.C.

BOOKS

Handbook of Heating, Ventilating and Air Conditioning (4th Edition), by John Porges, M.I.Mech.E., M.Inst.F. Publishers: George Newnes, Ltd., Tower House, Southampton Street, London, W.C.2. Price 30s.

This book has been designed to fulfil the need for a manual, with data, charts and tables, which can be used by heating and ventilating engineers as a day-to-day reference work. In this latest edition, complete revision has been made, and further information added, particularly with regard to aspects of design and installation.

New data on oil firing has been included, and schemes for the control of air conditioning are given with explanatory notes. A comprehensive index is provided to the book's contents, and a large bibliography which is given will be of great value to those who wish to pursue the theoretical side of any aspect.

Aluminium Busbar, by A. G. Thomas, B.Sc., and P. J. H. Rata, B.Sc. Published by Hutchinson Scientific and Technical for Northern Aluminium Co., Ltd., Aldwych, London, W.C.2. Price 21s. 10s. pp.

Containing a great deal of material hitherto unpublished, this book is devoted to information on the design, construction and installation of aluminium and aluminium alloy busbar.

The contents include chapters on design considerations, such as temperature rise and voltage drop; busbar for d.c. and a.c. applications; worked examples; bending and forming and jointing and connecting. In addition to the many graphs and formulae which appear in the text, there is an appendix containing 18 tables with regard to strengths, properties and characteristics of various types of aluminium busbar. The book is also provided with a bibliography and an index.



SPECIAL FOUNDATIONS FOR NORTHERN IRELAND FACTORY

THIRTY-TWO reinforced concrete grain silos, each 50ft. high and 7ft. square, have been built as part of a £1m. factory now nearing completion for J. Bibby and Sons, Ltd., at Lisburn, near Belfast.

They are housed in a "proportioning bins" building which stands 95ft. high, comprises about 1,500 cu. yd. of concrete and weighs about 2,000 tons.

Because of this weight, 106 piles had to be bored to provide the necessary support and each pile had to go 42ft. below the ground so that it rested on rock. Piling conditions were much worse than had been anticipated due to the presence of very hard boulders and each pile took about one week to bore.

Two concrete rafts were constructed on top of the piles and the ground floor was built on top of these. The ground and first floors house sensitive proportioning instruments and the silos have been built be-

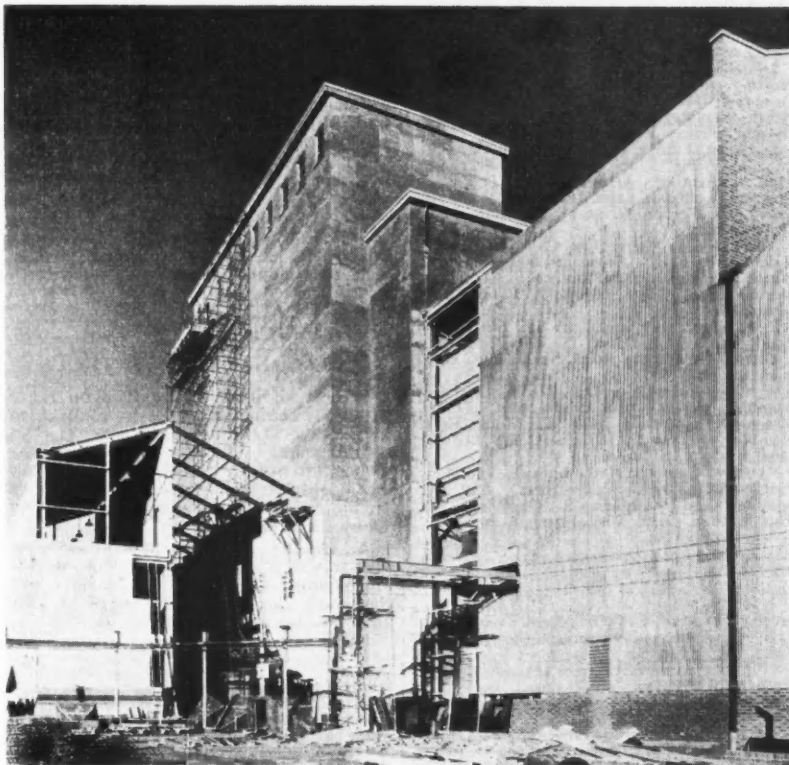
tween the first floor ceiling and the top floor, which is 80ft. high.

The intricate shape of the silo mouths meant that special wooden shuttering had to be employed. The contractors also used special techniques to provide a smooth finish to the silo interiors to prevent material lodging on the sides and fermenting.

A new administration block under construction will include offices and a canteen. Shower baths and individual lockers for plant operators are also being installed there.

A single-storey services building contains a laboratory, engineering stores, workshops for plant maintenance and a sack cleaning unit.

The architects for the factory are G. P. and R. H. Bell, of Lurgan, Northern Ireland, and the consulting engineers are Sir Bruce White, Wolfe Barry and Partners, London. Holland & Hannen and Cubitts (North West), Ltd., are the main contractors.



Nearing completion in this view are the mineral building, proportioning bins and grinding house

BRICK SHORTAGE THREATENS BIRMINGHAM HOUSING

ALDERMAN J. J. Grogan, chairman of Birmingham house-building committee, stated recently that the Council would probably get permission to erect 3,000 houses, maisonnettes and flats during the coming year, but this programme—which had not yet been finally settled—was threatened by a "grave shortage of bricks."

The Council had continued to let contracts for house building at the maximum possible rate, he said, and there were more contracts in the pipeline than ever before. However, tenders and contracts were not houses, and a shortage of materials and

manpower might be a serious matter in the coming 12 months.

It is reported that the Midland Region of the Federation of Master Builders are sending a special resolution asking the Federation's National Council to arrange area meetings with the brick manufacturers.

Said Mr. W. J. Morgan, secretary of the Midland Region: "The leading manufacturers assured builders that they are stepping up production by 100,000,000 bricks a year, but the position in the Midlands is definitely bad."

15-STORY GLASGOW BUILDING PROJECT

COMMERCIAL and General Investments (Scotland), Ltd., have applied for planning permission to erect a 15-storey building on a site in Glasgow, bounded by Cambridge Street, Rose Street and Renfrew Street.

The first three storeys occupying an area of 40,000 sq. ft. will be a shopping centre and, because of the different road levels of Cambridge Street and Rose Street, a road with pavements and parking space will run in at the third floor. Above the shops will be 12 storeys of offices, occupying 70,000 sq. ft. and served by a lift from the basement, where there will be parking space for 40 cars.

It is hoped to begin demolition work on the site in about six months. Plans are by R. F. Bluck and Associates, 147 Bath Street, Glasgow, C.2.

BRIDGE COMPETITION STILL VERY KEEN

Speaking at the annual general meeting of The Cleveland Bridge and Engineering Co., Ltd., the chairman, Mr. J. R. Dixon, said that competition for bridges and other structures in steel was still very keen, "but we expect inquiries for a considerable amount of bridgework in connection with new road and railway improvements, and should be successful in obtaining some share of this work."

He claimed that steel had many advantages over concrete and expressed the hope that some of the authorities who favoured concrete when there was a shortage of steel would revert to structures in steel now that it was again in good supply.

MR. ROBENS' POST CRITICISED

The appointment of Mr. Alfred Robens, Labour M.P. for Blyth and former Minister of Labour, as a consultant on labour relations to Atomic Power Constructors, Ltd., the contractors for the Trawsfynydd nuclear power station, has been criticised by Mr. E. J. Hill, general secretary of the Boilermakers' Society.

Writing in the Society's journal he says: "I assume he was appointed for the job because of his belief that strikes are an anachronism in a modern society. He made a terrific blunder when he made his strike speech, for he should have known only too well that strikes are inevitable in a capitalistic system of society—especially when it is hidebound in managerial functions such as those which apply in engineering and shipbuilding."

N.F.B.T.E. ANNUAL DINNER

The annual dinner of the National Federation of Building Trades Employers will be held at Grosvenor House on Tuesday, February 2.

Mr. T. V. Prosser, F.I.O.B., the national president, will be in the chair and will propose the toast of Her Majesty's Government. Lord John Hope, Minister of Works, will respond. The toast of The Guests will be proposed by Mr. D. E. Woodbine Parish, F.I.O.B., senior vice-president of the Federation, and Sir Harry Pilkington, president of the National Council of Building Materials Producers, will reply.

FORMATION OF JUNIOR MEMBERS SECTION

The Council of The Building Surveyors' Institute recently agreed to the formation of a Junior Members Section.

A committee has been appointed which will undertake the task of arranging lectures and meetings for the Section. The first of these was an informal "Get Together," held on January 8, to enable members to get acquainted and to meet the president of the Institute, Mr. J. D. Gilbert.

PLANS FOR FIRST NATIONAL HOMES WEEK

THE Federation of Registered House-builders, which is affiliated to the N.F.B.T.E., is to sponsor a National Homes Week from March 25 to April 2. The object will be to encourage home ownership and give expert advice to the industry's customers and potential customers, to stimulate healthy competition between house-builders in providing well-designed, soundly constructed houses at economic prices and to encourage manufacturers and suppliers of household goods and components to provide the widest possible choice and the fullest information to an expanding market.

How Builders Can Help

The Federation has urged its 1,000 members to give their utmost support to the week by taking, where appropriate, the following action:

Ensure that all sites are as clean and tidy as possible; place notice boards on approach roads giving the name of the building contractor, details of his registered houses and clear directions to show houses; provide show houses with ample supplies of a Federation leaflet explaining the National House-Building Registration Council's scheme; co-operate with local builders' merchants and retailers supplying furniture and equipment for show houses so that notices drawing attention to the new houses are displayed on counters and in shop windows, and organise local conferences, meetings and brains trusts, at which questions on housing topics from members of the public will be answered by experts.

The Federation has also invited 50 trade and consumer organisations to inform their members of the week so that they may have the opportunity of increasing their information services to the public by co-ordinating their efforts with those of the Federation.

Apart from the special events which registered house-builders will organise locally, the Federation will be organising meetings and conferences to arouse national interest.

OPENCAST CUTS "A Difficult Decision"

Speaking in London last week, Sir James Bowman, chairman, National Coal Board, said it was proposed to reduce coal output this year by 11,500,000 to 12,000,000 tons.

Opencast production would be reduced by 4,000,000 tons to a total of 7,000,000, which was less than half the output that could have been produced. To achieve this, no new contracts were being let as work finished on existing sites.

Opencast output was very profitable and the decision to cut it was a difficult one for the board, said Sir James. But there would have been serious social hardship to the mining community if opencast had been allowed to continue at its 1959 level. As it was, this contraction would involve some redundancy among staff of the opencast executive, though the board would do all they could to minimise this.

RISING HOUSE PRICES

It is reported from Nottingham that because of land prices a three-bedroom house which cost £2,700 to build 12 months ago is now costing up to £200 more in that area. A large firm of building contractors in the area have expressed the view that the peak of rising property prices is not yet in sight.

INTERNATIONAL ASSOCIATION FOR SHELL STRUCTURES

THE International Association for Shell Structures has been formed with the object of helping the development of design and construction techniques of shell structures by organising meetings and congresses to facilitate the exchange of ideas.

It is planned to hold a colloquium on "Precast Shells" next autumn, 1960. Warsaw or Dresden are the most likely venues for the meeting. A meeting is also scheduled to be held in September, 1961, in Delft (Holland), dealing with "Experimental Research on Shell Structures," to be followed immediately by a third one in Brussels, on "Approximate Methods of Calculation."

Executive Council

The I.A.S.S. activities will be organised by an executive council, a third of which will be renewed every two years. In order to ensure the international character of the Association, only two members of the same country may be elected simultaneously.

The present constitution of this Council is as follows: E. Torroja (Spain), president; A. L. Parme (U.S.A.) and W. Olszak (Poland), vice-presidents; F. Levi (Italy), treasurer; A. Aas-Jacobsen (Norway); A. L. L. Baker (Gt. Britain); N. Esquillan (France); A. M. Haas (Holland); R. S. Jenkins (Gt. Britain); K. W. Johansen (Denmark); O. D. Oniashvili (U.S.S.R.); A. Paduart (Belgium); H. Rühle (German Democratic Republic); W. Zerna (Federal Republic of Germany); F. del Pozo (Spain), secretary.

Further details regarding membership may be obtained from the Secretariat of the International Association for Shell Structures, Alfonso XII, 3, Madrid (7), Spain.

LONDON-YORKSHIRE MOTORWAY Draft Scheme for Second Section

The Minister of Transport, Mr. Ernest Marples, has published a draft scheme for the second part of the London-Yorkshire Motorway.

The proposed route of this new 86-mile extension of M.1 runs roughly northwards from Crick, near Rugby, through Northamptonshire, Leicestershire, Derbyshire and Nottinghamshire and ends in the West Riding of Yorkshire at a junction with the Doncaster By-pass, which is due for completion in June, 1961.

Through Leicestershire the route follows the "compromise" line proposed by the Leicestershire County Council as an alternative to two earlier proposals which met with strong objections on agricultural and amenity grounds.

The Minister intends to publish as soon as possible his proposals for an extension of the Motorway in the West Riding towards Sheffield and Leeds, and for a spur from Catthorpe in Leicestershire to join ultimately with a Birmingham to Lancaster Motorway.

It was also announced recently that Mr. Marples has decided not to proceed with the construction of an experimental over-bridge, using Bailey bridge material, at the "Toby Jug" intersection on the Kingston By-pass.

A further and detailed examination has revealed that the idea of taking two lines of traffic over this intersection on Bailey bridges is open to objections on grounds of amenity and that a temporary construction would not be justified in relation to its cost. It is also likely that a project of this kind would not have the advantages from the point of view of traffic and safety which preliminary consideration had shown that it might possess.

A report on the Symposium on the "Living Town" may now be obtained from the Secretary of the Royal Institute of British Architects, 66 Portland Place, London, W.1, price 7s. 6d., post free.

Obituary

MR. ARTHUR MONK, M.I.Struct.E., chairman and joint managing director of A. Monk and Co., Ltd., died suddenly on Saturday, January 9.

Mr. Monk, who was 67, founded the building and civil engineering firm that bears his name as a small private construction firm in 1920. Since then the company has grown until it has become one of the largest contracting firms in the United Kingdom.

Arthur Monk, who started as a bricklayer, became well known for his great philanthropy and gave large sums of money to charity and to the welfare of his employees. Recently he made a donation of £10,000 to the Manchester College of Technology, where he had received his early training as a young student.

He was keenly interested in Local Government affairs and in politics, and his activities included the chairmanship of the Newton Division Conservative Association, a post he had held since 1947. He was also a long-serving Lancashire County Councillor and had held a Conservative seat for the Winwick Ward for the past nine years.

It is also with regret that *The Contract Journal* records the death of the following:

Mr. Norman Billington, aged 47, surveyor and architect to Lothingland (Suffolk) R.D.C.

Mr. L. L. Baldwin, aged 88, former surveyor to Coalville (Leics.) U.D.C.

BOOKS

Handbook of Heating, Ventilating and Air Conditioning (4th Edition), by John Porges, M.I.Mech.E., M.Inst.F. Publishers: George Newnes, Ltd., Tower House, Southampton Street, London, W.C.2. Price 30s.

This book has been designed to fulfil the need for a manual, with data, charts and tables, which can be used by heating and ventilating engineers as a day-to-day reference work. In this latest edition, complete revision has been made, and further information added, particularly with regard to aspects of design and installation.

New data on oil firing has been included, and schemes for the control of air conditioning are given with explanatory notes. A comprehensive index is provided to the book's contents, and a large bibliography which is given will be of great value to those who wish to pursue the theoretical side of any aspect.

Aluminium Busbar, by A. G. Thomas, B.Sc., and P. J. H. Rata, B.Sc. Published by Hutchinson Scientific and Technical for Northern Aluminium Co., Ltd., Aldwych, London, W.C.2. Price 21s. 105 pp.

Containing a great deal of material hitherto unpublished, this book is devoted to information on the design, construction and installation of aluminium and aluminium alloy busbar.

The contents include chapters on design considerations, such as temperature rise and voltage drop; busbar for d.c. and a.c. applications; worked examples; bending and forming and jointing and connecting. In addition to the many graphs and formulae which appear in the text, there is an appendix containing 18 tables with regard to strengths, properties and characteristics of various types of aluminium busbar. The book is also provided with a bibliography and an index.



SPECIAL FOUNDATIONS FOR NORTHERN IRELAND FACTORY

THIRTY-TWO reinforced concrete grain silos, each 50ft. high and 7ft. square, have been built as part of a £1m. factory now nearing completion for J. Bibby and Sons, Ltd., at Lisburn, near Belfast.

They are housed in a "proportioning bins" building which stands 95ft. high, comprises about 1,500 cu. yd. of concrete and weighs about 2,000 tons.

Because of this weight, 106 piles had to be bored to provide the necessary support and each pile had to go 42ft. below the ground so that it rested on rock. Piling conditions were much worse than had been anticipated due to the presence of very hard boulders and each pile took about one week to bore.

Two concrete rafts were constructed on top of the piles and the ground floor was built on top of these. The ground and first floors house sensitive proportioning instruments and the silos have been built be-

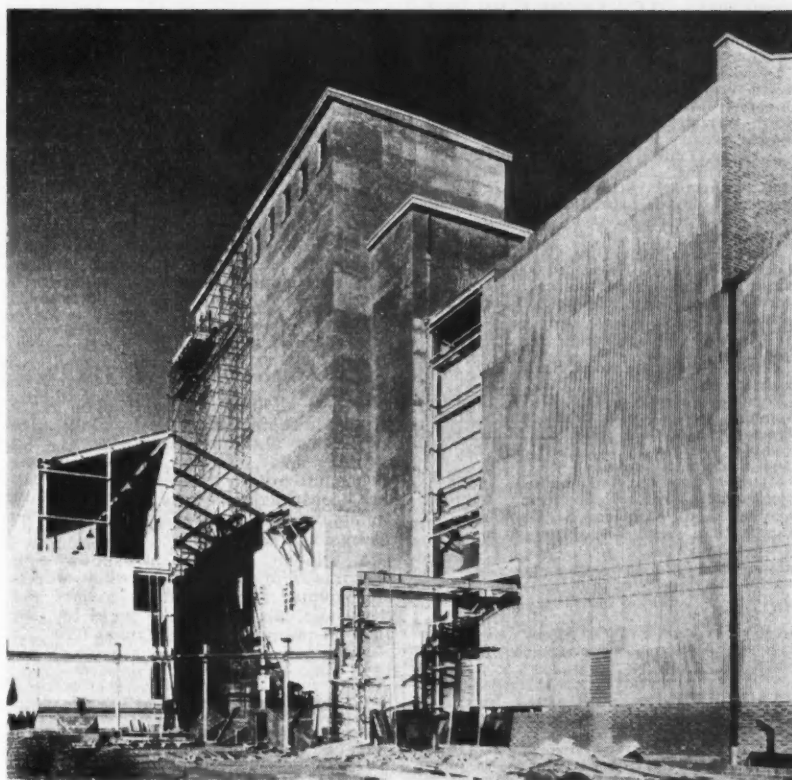
tween the first floor ceiling and the top floor, which is 80ft. high.

The intricate shape of the silo mouths meant that special wooden shuttering had to be employed. The contractors also used special techniques to provide a smooth finish to the silo interiors to prevent material lodging on the sides and fermenting.

A new administration block under construction will include offices and a canteen. Shower baths and individual lockers for plant operators are also being installed there.

A single-storey services building contains a laboratory, engineering stores, workshops for plant maintenance and a sack cleaning unit.

The architects for the factory are G. P. and R. H. Bell, of Lurgan, Northern Ireland, and the consulting engineers are Sir Bruce White, Wolfe Barry and Partners, London. Holland & Hannen and Cubitts (North West), Ltd., are the main contractors.



Nearing completion in this view are the mineral building, proportioning bins and grinding house

BRICK SHORTAGE THREATENS BIRMINGHAM HOUSING

ALDERMAN J. J. Grogan, chairman of a Birmingham house-building committee, stated recently that the Council would probably get permission to erect 3,000 houses, maisonnettes and flats during the coming year, but this programme—which had not yet been finally settled—was threatened by a "grave shortage of bricks."

The Council had continued to let contracts for house building at the maximum possible rate, he said, and there were more contracts in the pipeline than ever before. However, tenders and contracts were not houses, and a shortage of materials and

manpower might be a serious matter in the coming 12 months.

It is reported that the Midland Region of the Federation of Master Builders are sending a special resolution asking the Federation's National Council to arrange area meetings with the brick manufacturers.

Said Mr. W. J. Morgan, secretary of the Midland Region: "The leading manufacturers assured builders that they are stepping up production by 100,000,000 bricks a year, but the position in the Midlands is definitely bad."

15-STOREY GLASGOW BUILDING PROJECT

COMMERCIAL and General Investments (Scotland), Ltd., have applied for planning permission to erect a 15-storey building on a site in Glasgow, bounded by Cambridge Street, Rose Street and Renfrew Street.

The first three storeys occupying an area of 40,000 sq. ft. will be a shopping centre and, because of the different road levels of Cambridge Street and Rose Street, a road with pavements and parking space will run in at the third floor. Above the shops will be 12 storeys of offices, occupying 70,000 sq. ft. and served by a lift from the basement, where there will be parking space for 40 cars.

It is hoped to begin demolition work on the site in about six months. Plans are by R. F. Bluck and Associates, 147 Bath Street, Glasgow, C.2.

BRIDGE COMPETITION STILL VERY KEEN

Speaking at the annual general meeting of The Cleveland Bridge and Engineering Co., Ltd., the chairman, Mr. J. R. Dixon, said that competition for bridges and other structures in steel was still very keen, "but we expect inquiries for a considerable amount of bridgework in connection with new road and railway improvements, and should be successful in obtaining some share of this work."

He claimed that steel had many advantages over concrete and expressed the hope that some of the authorities who favoured concrete when there was a shortage of steel would revert to structures in steel now that it was again in good supply.

MR. ROBENS' POST CRITICISED

The appointment of Mr. Alfred Robens, Labour M.P. for Blyth and former Minister of Labour, as a consultant on labour relations to Atomic Power Constructors, Ltd., the contractors for the Trawsfynydd nuclear power station, has been criticised by Mr. E. J. Hill, general secretary of the Boilermakers' Society.

Writing in the Society's journal he says: "I assume he was appointed for the job because of his belief that strikes are an anachronism in a modern society. He made a terrific blunder when he made his strike speech, for he should have known only too well that strikes are inevitable in a capitalistic system of society—especially when it is hidebound in managerial functions such as those which apply in engineering and shipbuilding."

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Trade Section

NEW COMPANIES

The undermentioned particulars of new companies recently registered are taken from the daily register compiled by Jordan and Sons, Ltd., company registration agents, 116 Chancery Lane, London, W.C.2:—

Bevan Construction Co. (Midlands), Ltd., 110 Hamstead Road, Handsworth, Birmingham, builders, etc. £2,000. Directors: Leslie G. Bevan and Mrs. Noreen B. Bevan, 120 East View Road, Sutton Coldfield.

D. Pardoe (Contractors), Ltd., 43 Talbot Street, Lye, Stourbridge, builders. £2,000. Directors: Dennis Pardoe and Maureen Pardoe, 43 Talbot Street, Lye, Stourbridge.

Hire Service Co. (London), Ltd., 13 Mansfield Street, London, W.1, hirers and letters on hire of plant, machinery and equipment used in the building and allied trades, etc. £5,000. Directors: Albert H. Taylor, 28 Holland Park Gardens, London, N.14.

Ashlyn Construction, Ltd., The Albany, 21 Mawdsley Street, Bolton, builders. £1,000. Director: Robert Horrocks, Thirlston, Blackburn Road, Egerton, near Bolton.

Cyril Bates (Contractors), Ltd., Bateholme, Horsepit Lane, Pinchbeck, Spalding, road rolling contractors, etc. £5,000. Directors: Beryl Leo Fowle and Joseph G. Fowle, Bateholme, Horsepit Lane, Pinchbeck, Spalding.

North London Asphalte Co., Ltd., 33 Portland Rise, Stamford Hill, N.16. £1,000. Directors: Thomas W. Fitzsimmons, 11 Musgrove House, London, E.9; Victor Fitzsimmons, 13 Cross Green, Basildon, Essex; Alfred G. White, 15 Nisbet House, High Street, London, E.9.

Sujac Developments, Ltd., The Albany, 21 Mawdsley Street, Bolton, builders. £1,000. Director: Robert Horrocks, Thirlston, Blackburn Road, Egerton, near Bolton.

Wellwick, Ltd., Eagle House, Jermyn Street, London, S.W.1, sand and gravel quarry proprietors, etc. £1,000. Permanent directors: Alexander H. Tucker, Mapleton Hotel, 39 Coventry Street, London, W.1; Reginald L. Wells, 16 St. Marys Crescent, Osterley, Isleworth, Middx.

Gravesend Plant Hire, Ltd., 53 Lowfield Street, Dartford, Kent. £5,000. Directors: Frank G. Miller and Mary E. Miller, 115 Dover Road, Northfleet, Kent.

Tattersall Refractory Linings, Ltd., 137 Southfield Road, Middlesbrough, builders and repairers of chimneys, kilns, etc. £25,000. Directors: Norman Tattersall, Wayside, Nunthorpe, Middlesbrough; William Tattersall, 14 Cowley Road, Acklam, Middlesbrough.

Bowles and Co. (Builders), Ltd. £100. Directors: Lilian M. Caddy, 32 Gibbon Road, London, W.3 (secretary); George K. Bowles, 19 Yewtree Road, London, W.12.

A. J. Sadler and Co., Ltd., Vicarage Farm Cottage, Chesterton, near Bicester, Oxon, builders. £5,000. Directors: Albert J. Sadler, The Lane, Chesterton, near Bicester, Oxon.; Jesse B. Honour, Vicarage Cottage, Chesterton, near Bicester, Oxon.

A. W. Reid (Builders), Ltd., 7-8 Bury Court, London, E.C.3. £100. Directors: Alfred S. Reid, 18 Second Avenue, Westcliff-on-Sea; Philip S. Reid, 29 Tyrone Road, Thorpe Bay, Essex.

B. Rhodes and Son (Builders), Ltd., 35 Barnsley Road, Hemsworth, Yorks. £5,000. Directors: Balfour Rhodes, 86 Barnsley Road, Cudworth; George B. Rhodes, 37 Barnsley Road, Hemsworth; Mrs. Ethel Rhodes and Mrs. Mary E. Rhodes.

Composite Structures, Ltd., 29 Stainbeck Lane, Leeds, 7, manufacturers of precast concrete articles, erectors of prefabricated buildings, etc. £500. Directors: Neville Shute, 212 Street Lane, Leeds, 8; Wm. A. Huffer, 35 Sandhill Mount, Leeds, 17; John Cairnes, Samuel Taylor-Hall and Harry Robinson.

J. Durling and Son, Ltd., 86 Delce Road, Rochester, Kent, builders and contractors. £10,000. Directors: Robert A. Durling, 12 Shaws Way, Rochester, Kent; Arthur A. Durling, 15 Grange Way, Rochester, Kent.

C. R. Holbourn and Co., Ltd., 35 Essex Street, London, W.C.2, builders. £2,000. Directors: Clifford R. Holbourn and Mrs. Ellinor L. Holbourn, 43 Chatsworth Way, London, S.E.27.

Douglas and Pearsons, Ltd., 76 Peel Road, North Wembley, scaffolders, builders, etc. £100. Directors: Matthew Douglas, 76 Peel Road, North Wembley; Leonard Pearsons, 23 Whitchurch Avenue, Edgware, Middx.

L. Green (Linby), Ltd., 19 Vernon Crescent, Longdale Lane, Linby, Notts., builders, etc. £100. Directors: Arthur Cope, 17 Vernon Crescent, Longdale Lane, Linby, Notts.; Leslie Green, 19 Vernon Crescent, Longdale Lane, Linby, Notts.

North Essex Plant Hire Co., Ltd., Lower Hall, Gt. Bardfield, Essex. £1,000. Directors: Wm. S. Crossman and Florence E. Crossman, North Place, Great Bardfield, Essex (both permanent).

F. J. Glynn and Son, Ltd., 182 Shirebrook Road, Sheffield, builders. £1,000. Frederick J. Glynn, 4 Rushdale Road, Sheffield, 8, signs as director.

Wembley Paving Co., Ltd., 82a Monks Park, Wembley, public works contractors. £1,000. Directors: Geoffrey H. Jones, 82a Monks Park, Wembley; Arthur F. J. Gilbert, 298 Bedford Lane, Feltbam.

Matthew Gumbley, Ltd., builders and contractors. £1,000. Directors: Matthew Gumbley and Kathleen B. Gumbley, 703 Walsall Road, Great Barr, Birmingham.

ANGLO-AMERICAN CRANE MANUFACTURERS' AGREEMENT

STEEL AND CO., LTD., have made an agreement with Unit Crane and Shovel Corporation, Milwaukee, U.S.A., whereby Unit will manufacture Coles cranes in Milwaukee and will market these throughout the U.S.A., Canada and Mexico under the name of Unit-Coles; R. H. Neal and Co., Ltd., will manufacture Unit cranes, excavators, draglines and backhoes in Grantham, and will market them throughout the world with the exception of U.S.A., Canada and Mexico under the name of Neal-Unit, and subject to the existing Unit franchises in Australia, Union of South Africa, and the Benelux countries.

A sales company has been registered under the name International Crane and Excavator Corporation with headquarters in New York for marketing Coles cranes and Unit cranes and excavators in the South and Central American Republics.

AVELING-BARFORD ORDERS INCREASE

An increase in the number of orders placed at home and overseas is reported by the chairman of Aveling-Barford, Ltd., Mr. Edward Barford.

"The future can be faced with more confidence," he states. Production from group factories in this country should be at a substantially higher level than last year and, with more settled conditions throughout the world, some benefit should be seen from the road schemes and other civil engineering projects announced in many countries.

Mr. Barford says that while his board is pleased to see Great Britain's road programme continuing to gather momentum, the amount of money allocated for it is still "woefully inadequate."

PARAGON ORDERLY TRUCK

A new addition to the Paragon range of mobile equipment, made by G. W. Elen and Sons, Ltd., Paragon Works, St. George's Way, London, S.E.15, is the Councilor orderly truck. This is of all-steel construction and is fitted with two aluminium alloy bins of a standard 17 by 17 by 23 dimension.

A slip-pin arrangement allows easy withdrawal of the bins. Jockey wheels are mounted fore and aft for balance and the whole unit is mounted on 14 by 3 or 16 by 4 pneumatic or cushioned tyres.

POLYTHENE FILM FOR BUILDING

A new polythene film, marketed specifically for the building industry, has been announced by the Marley Group, Sevenoaks, Kent.

It is Marleythene Film, which is 72in. wide, but is folded to make rolls of a convenient 36in. One hundred yards long, i.e., 200 square yards, the weight of a 150-gauge roll is only about 14lb. Other gauges are 250 and 500, weighing approximately 21lb. and 47lb., respectively.

HARVEY BIRD BAFFLE

The problem of damage to buildings by pigeons and starlings has been tackled by G. A. Harvey and Co. (London), Ltd., Greenwich Metal Works, London, S.E.7, who have produced a metal baffle of gutter section with rows of blunt projections formed to carefully determined angles, which prevent the birds alighting. It may be fitted to follow the lines of cornices and other architectural features, and is secured by metal strips which can be fixed to any adjoining surface.



This side tipping shovel is now available for the International Drott B6K3. It is of 1 cu. yd. capacity and has an overhang of 2ft. 6in. outside the track. Looking from the rear of the tractor it tips from right to left, and is hydraulically controlled. This shovel is manufactured by T. T. Boughton and Son, of Amersham.

Current Constructional Activities

PROJECTS • CONTRACTS • AWARDS

THIS editorial feature provides readers with a comprehensive news service covering forthcoming private and public construction work. Commencing on this page information is given concerning future projects followed by details of tenders being invited. In the third section will be found news of tenders recommended for acceptance, tenders accepted and contracts awarded. Attention is also drawn to the advertisements covering contracts and appointments appearing in the front part of the *Journal*.

BUILDING AND DECORATING (See also Housing Schemes)

Adwick-le-Street, Yorks.—U.D.C. have approved purchase of the old Empire Cinema for conversion into swimming baths.

Aldridge, Staffs.—U.D.C. to purchase land at Hillingford Avenue, Pheasey, as a site for public conveniences.

Andover, Hants.—Borough Surveyor to include in the 1960/61 programme, scheme for the conversion of the Vigo Road recreation bandstand into a shelter for public use.

Arbroath, Angus.—Wakeman, Trower and Partners, 47 Bloomsbury Square, London, W.C.1, are the quantity surveyors for a first stage factory of 50,000 sq. ft., including offices and rail sidings on the Dundee-Aberdeen Road (A.92), for the Metal Box Co., Ltd., 37 Baker Street, London, W.1. Pynford, Ltd., Stroud Green, London, N.4, are the soil survey consultants, and the Metal Box Co., Ltd., Building and Services Division are the architects. Site works are expected to commence in March.

Aylesbury, Bucks.—R.D.C. to erect 90 garages at Aston Clinton, Stoke Mandeville, Wendover and Westcott during this year.

Bangor, Down.—H. A. Patton, 29 Wellington Place, Belfast, is the planning consultant for a redevelopment scheme for the Castle Street-Castle Square area, approved by the B.C. Estimated cost £293,000.

Barrow-in-Furness, Lancs.—Working drawings and bills of quantities approved for provision of a dual operating theatre unit at North Lonsdale Hospital, for Manchester Regional Hospital Board.

Bath, Som.—City Council to apply for sanction to borrow £82,500 for the modernisation of approximately 1,000 Council houses on various estates.

Bedale, Yorks.—S. Les, The Café, Leeming, is planning the construction of a motel at Aiskew.

Billinge, Lancs.—Ministry have approved provision of ante-natal clinic at Billinge Hospital, for Manchester Regional Hospital Board. Working drawings and bills of quantities to be prepared.

Birkenhead, Ches.—Girls' Public Day School Trust have approved plans for improved kitchens and extensions to dining and assembly hall at the Girls' High School. Estimated cost £39,000.

Birmingham.—Norwich Union Insurance Societies to erect a multi-storey office block at corner of Calthorpe Road and St. James Road, Five Ways, Edgbaston. J. H. D. Madin, 83 Hagley Road, Edgbaston, Birmingham, 16, is the architect, J. W. Stockings and Clarke, London House, London Street, Norwich, the quantity surveyors and F. S. Snow and Partners, 7 Thorpe Road, Norwich, consulting engineers, for the scheme. Estimated cost £1m.

Hurley Robinson and Son, Cadogan Chambers, 6 Cherry Street, are the architects for the erection of premises in S-folk Street and Beak Street, for the Central Motor Co. (Birmingham), Ltd., John Bright Street. Estimated cost £40,000.

Blyth, Suffolk.—R.D.C. considering scheme for modernising 378 pre-war Council houses. Estimated cost £200,000.

Bodmin, Corn.—B.C. recommended to proceed with phase I of scheme for alterations at the Cattle Market. Estimated cost £1,100.

Boston, Lincs.—B.C. recommended to approve the erection of seven garages behind the Forbes Road shops at Wood Farm housing estate. Estimated cost £850.

Bournemouth, Hants.—B.C. recommended to invite tenders for the repair and improvement of Kinson School House.

Bridport, Dorset.—B.C. recommended to prepare outline scheme for the provision of public conveniences at West Bay.

Brighouse, Yorks.—B.C. have approved, in principle, Ministry of Works proposal to build a new telephone exchange in Mellor Square.

Bristol.—Alec F. French and Partners, Halifax House, St. Augustines Parade, are the architects for the construction of a multi-storey car park at Temple Gate, for the Victoria Motor Co. (Bristol), Ltd.

Bristol.—City Council recommended to apply for sanction to borrow £50,000 for the construction of a kitchen at Two Mile Hill Primary School, modern toilet and cloakroom facilities and staff accommodation at Summerhill Infants' School, biology laboratory, modern toilet and cloakroom facilities at Connaught Road Secondary Girls' School, kitchen for all schools on the site, new lavatories and cloakroom and head's room for primary school at Upper Horfield Schools, and changing accommodation for school and playing field at Carlton Park Secondary School; approve scheme for demolition of outbuildings adjoining the Mansion and repair of roof and eradicate dry rot at the Mansion on Ashton Court estate. Estimated cost £2,000.

Buckfastleigh, Devon.—U.D.C. to prepare detailed plans and invite tenders for the improvement of changing accommodation at the swimming baths.

Bury St. Edmunds, Suffolk.—B.C. recommended to approve the repainting of 428 dwellings, eight shops and 34 garages during the year.

Camberley, Surrey.—Co. E.C. have approved sketch plans for a new four-form entry secondary mixed school at Old Dean County Secondary School. Estimated cost £233,172.

Chancetonbury, Sussex.—Ministry have approved scheme for the extension to the Council Offices at Storrington, for R.D.C.

Chelmsford, Essex.—B.C. recommended to approve plans, subject to conditions, for the erection of a public-house and provision of a car park at Gloucester Avenue, for Truman, Hanbury, Buxton and Co., Ltd., West Bergholt, Chelmsford; erection of a meeting hall at Mildmay Road, for The Order of St. John of Jerusalem, Lancaster House, Mildmay Road, Chelmsford; construction of vehicle servicing bays with office, waiting room and toilets at Springfield Road, for Continental Car Services, Ltd., Springfield Road, Chelmsford.

Coventry.—City Council have approved the erection of 313 garages at various housing estates. Estimated cost £41,748.

Cowes, I. of W.—Co. Planning Committee have approved outline application for the erection of a factory at Broadlands Farm site for, Ronson Products, Ltd., 352 Strand, London, W.C.2.

Darlaston, Staffs.—U.D.C. have approved, subject to Ministry approval, scheme for the provision of a chairman's parlour at the Town Hall. Estimated cost £1,500.

Dartford, Kent.—R.D.C. to erect four shops with flats above at the Watchgate estate.

Dewsbury, Yorks.—B.C. recommended to approve sketch plans and designs for a block of four shops and maisonnettes to be erected at High Street, Westtown; to approve the erection of public convenience at Whitley.

Doncaster, Yorks.—Borough Architect recommended to prepare draft plans for extensions at training college, and sketch plans for the proposed Robin Infant School.

B.C. recommended to approve for submission to the M.E. plans for conversion of the St. Francis Xavier R.C. Primary School.

Dorchester.—B.C. recommended to approve plans for the construction of new classrooms, store and toilet facilities at Dorchester County School for Girls, for Co. E.C.

Dundee.—City Council recommended to approve a plan to increase storage accommodation at the depot to 16,000 sq. ft. Estimated cost £7,000.

Dunmow, Essex.—R.D.C. to invite tenders for the modernisation of 59 houses at Newton Green.

Dunstable, Beds.—Peter Dunham, Widdup and Harrison, Union Street, Luton., are the architects for a new factory at Dunstable, for Hawthorn Baker, Ltd.

Duston, Northants.—Oxford Regional Hospital Board to proceed with the planning of a mental hospital at the St. Crispin site.

East Suffolk.—Ministry have approved plans for the erection of secondary modern schools

at Debenham and Gisleham, infants' school at Kesgrave, and extensions to Reydon area school, for C.C. Estimated cost £102,613; £102,613, £42,350 and £56,000, respectively.

Edmonton, Middx.—B.C. recommended to approve for inclusion in the 1960-61 estimates new dressing room accommodation at Barrass Stadium. Estimated cost £40,330.

Essex.—C.C. propose the erection of a combined pavilion and groundsman's house at the council's staff playing field at Writtle during 1961. Estimated cost £6,560.

Eton, Bucks.—R.D.C. have approved plans for the erection of 146 garages.

Exwell, Surrey.—E.C. have approved the erection of a pavilion on the school playing fields at Priest Hill. Estimated cost £20,000.

Fareham, Hants.—Co. Planning Committee recommended to approve plans for the erection of two factory buildings, the extension of an existing building, and the construction of a test house on land off Castle Street, Portchester, for Warings (Contractors), Ltd., London Road, Hilsea, Portsmouth.

Felixstowe, Suffolk.—East Anglian Regional Hospital Board have authorised the preparation of sketch plans for the improvement of Felixstowe General Hospital.

Glasgow.—Robert F. Bluck and Associates, India Street, Glasgow, are the architects for a proposed 15-storey building combining shops and offices at a site bounded by Cambridge Street, Renfrew Street and Rose Street. The promoters are the Commercial and General Investments (Scotland), Ltd., 20 Grosvenor Street, Mayfair, London. Estimated cost £1m. Work is expected to start in August.

Glasgow, C.3. is the consulting architect for a 20-storey office block which Gula Investments, Ltd., St. Clare House, 30-33 Minorities, London, plan to erect on an island site in Sauchiehall Street, bounded by Renfield Street, West Nile Street, and Renfrew Lane. Estimated cost £1½m.

Great Yarmouth, Norfolk.—B.C. have approved scheme for the installation of wash basins, hot water supply, etc., in 69 houses at Barrack estate and wash basins in 227 houses at Barrack, Newtown and Southtown estates. Estimated cost £7,590 and £2,510, respectively.

Guildford, Surrey.—B.C. have approved an outline application for the erection of a departmental store at High Street, for Debenhams, Ltd., 91 Wimpole Street, London, W.1. George Baines and Syborn, 121 Victoria Street, London, S.W.1, are the architects. Estimated cost £1m.

B.C. recommended to approve in principle amended plans for extension of Municipal Offices.

Hastings, Sussex.—B.C. recommended to apply for sanction to borrow £6,000 for alterations to the sun lounge; approve layout plans for the erection of six garages at the eastern end of Beauchamp Road.

Hendon, Middx.—B.C. recommended to approve the appointment of Richardson and Davis, 57 Queen Anne Street, London, W.1, as quantity surveyors for the extension of the motor repair workshops, at Hendon Way Depot. Estimated cost £10,000.

Adie, Button and Partners, 7 Carlos Place, London, W.1, are the architects for proposed extensions to shops "A" and "B," for Duplex Motor Bodies, Ltd., The Hyde, N.W.9.

Heston and Isleworth, Middx.—B.C. propose to erect during 1960-61, new public conveniences at the junction of Heston Road and Great West Road, and at The Broadway, Hounslow. Estimated cost £5,000 and £8,500, respectively.

Heston and Isleworth, Middx.—Town planning approval has been received for a departmental store, a supermarket and 20 shops on a site of 3-85 High Street, Hounslow, J. W. Macaloin, 174 Brompton Road, London, S.W.3, is the architect. Estimated cost £1m.

Heywood, Lancs.—Borough Surveyor to be instructed to submit scheme for erection of shops on the Heady Hill housing estate.

Charles B. Pearson and Son, architects, 24 Loxford Street, Manchester, 15, are to be asked by the B.C. to submit modified plans for erection of an assembly hall on the Church Street site.

H'cklev, Leics.—U.D.C. have approved plans for additions to factory at Rugby Road, for Amoa Chemical Co., Ltd.; extension to factory at High Street, Earl Shilton, for A. J. Minard

and Sons, Ltd., petrol filling station at Rugby Road, for Cleveland Petroleum Co., Ltd., Ben-tinck Buildings, Wheeler Gate, Nottingham.

Hythe, Kent.—B.C. recommended to approve in principle the erection of 16 garages at Horn Street estate, Deedes Close, Long-bridge and Prince's Terrace and Cinque Ports Avenue and Wakefield Way area.

Kettering, Northants.—B.C. to apply for sanction to borrow £7,000 for the provision of a pavilion at Weekley Glebe playing field.

Kilburn, Middx.—C.C. recommended to approve the proposed erection of a clinic and day nursery at Victoria Place, Kilburn. Estimated cost £55,600.

Kingsclere and Whitchurch, Hants.—R.D.C. have approved scheme for improvements to 89 houses at Highclere, Hannington, St. Mary Bourne, Kingsclere, East Woodhay, Echins-well, Burghclere, Ashford Hill and Headley.

Lanarkshire, E.C. have approved the erection of technical colleges at Dalziel estate, Knowetop, Motherwell, and on the Barracks site at Alma Street, Hamilton. Estimated cost £750,000.

Lancaster.—Lancs. Co. E.C. recommended to approve expenditure of £5,480 on sanitary accommodation at Skerton Boys' and Girls' County Secondary Schools.

Leeds.—City Council recommended to approve layout plan for development of land in Coronation Parade, Halton Moor estate, as site for 18 garages.

Leeds.—Charlton and Crowther, Bond Street, Leeds, 1, are to prepare plans for erection of a new building at Primley Park View, Alwoodley, for Alwoodley Motors, Ltd.

Lichfield, Staffs.—R.D.C. have approved an outline application for the erection of a factory at Chase Road industrial site, for J. Brierley and Sons, Ltd., 49 Loveday Street, Aston Cross, Birmingham, 4.

Lichfield, Staffs.—R.D.C. to erect six garages at Whittington.

C.C. to apply for sanction to borrow £61,000 for the erection of an old people's home adjacent to Nearfield House.

Liverpool.—G. de C. Fraser, Son and Gearey, 27 Dale Street, are the architects for the rebuilding of the David Lewis Theatre at Great George Place, for the David Lewis Hotel and Club Association.

Loughborough, Leics.—Ind Coope (East Midlands), Ltd., P.O. Box 46, Wardwick Brewery, Derby, hope to invite tenders in April/May for the erection of licensed premises at Shelthorpe. Plans by E. W. Edwards, staff architect.

Luton, Beds.—Co. Health Committee have approved revised sketch plans for clinic premises at Gooseberry Hill. Estimated cost £8,500.

Manchester.—City Architect authorised to invite selected tenders for terrazzo tiling, stair finishes, etc., at Courts of Law; City Architect to negotiate a tender with Vic Hallam, Ltd., Nottingham, for erection of Woodhouse Park Community Centre; Town and Planning Committee approval granted to Ministry of Works for erection of postal sorting office in Factory Lane, Barnes Green; erection of Crosslee School, White Moss Road, Black-ley; erection of single-storey infants' school, Nathan Road, off Greenwood Road, Wythenshawe; detailed plans of extensions to school, Nicholls Secondary Modern School, Hyde Road, Ardwick; public convenience, Hunters Lane, West Gorton; erection of three-storey aged persons' home after demolition of existing property, Holly-hedge Road, Wythenshawe; erection of club-room for aged persons and use of remainder of land for gardens adjoining Central Syna-gogue, corner of Heywood Street and Bride-oak Street, Cheetham; erection of clubroom for aged persons with garden layout, at Wind-croft Street, Bell Street and Barmouth Street, Ardwick, and erection of clubroom for aged persons with garden layout on land adjoining 12 Cringle Road, Levenshulme.

March, I. of E.—U.D.C. propose the con-struction of a swimming pool.

Newark, Notts.—R.D.C. to prepare plans for extensions to Council offices to provide accommodation for additional employees at Lombard Street.

Newton Abbot, Devon.—U.D.C. have ap-proved in principle three-stage plan for im-provements at the Cattle Market. Detailed plans are to be prepared for stage I.

Northampton.—B.C. have approved in principle the inclusion of ground floor shops and a basement car park in the Town Hall extension scheme. Estimated cost £250,000.

Northwood, Middx.—C.C. recommended to approve the erection of a branch library on a small part of the Northwood Secondary School. Estimated cost £23,665.

Nottingham.—Planning Committee have granted Moss' Empires, Ltd., Cranbourn Mansions, London, W.C.2, planning per-mission to develop the Theatre Square site by erecting shops and offices to replace the Empire and Royal Theatres.

Eberlin and Darbyshire, 3 College Street, Nottingham are the architects for the erec-tion of a social and recreational centre at Edwards Lane, for the Nottingham and District Society of Mentally Handicapped Children. Estimated cost £5,000.

Paisley, Renfrews.—Dean of Guild Court have approved plans for building loading bays, rest rooms, offices, etc., at Blackland Mill, for William Grant and Sons, Ltd., 208 West George Street, Glasgow, C.2. Estimated cost £35,000.

Peterborough.—Co. Planning Committee have approved an outline application for the conversion of old Deacon's School building, Deacon Street, into a warehouse, offices and general commercial business premises, for Godfrey Holmes, Ltd., Homer House, Monson Street, Lincoln.

Petersfield, Hants.—Co. Planning Com-mittee have approved schemes for a large poultry and packing station at Penns Farm, Durdur Road, for Chicken-house Co., Ltd. Estimated cost £180,000.

Petersfield, Hants.—R.D.C. propose the pro- vision of public conveniences at Rowlands Castle and Horndean and improvement of 8-22 and 32-38 Petersfield Road, Buriton, during 1960-61. Estimated cost £2,500 and £7,200, respectively.

Sir John Brown, A. E. Henson and Partners, 117 Sloane Street, London, S.W.1, are the architects for the redevelopment of Swan Street for the Raglan Property Trust, Ltd., Raglan House, Forty Lane, Wembley, Middx. First stage of scheme, including an office block, is estimated to cost £60,000 (scheme in its very early stages).

Portsmouth.—City Council recommended to apply for sanction to borrow £4,000 for im-provements to the Rock Gardens Pavilion and £2,500 for the erection of a public con-venience at Twyford Avenue.

Ramsgate, Kent.—B.C. recommended to ap-ply for sanction to borrow £23,625 for the three phased programme of improvements, repair and maintenance of council houses; ap-prove plans for the erection of seven lock-up garages on land rear of Truro Road. Esti-mated cost £850.

Reading, Berks.—B.C. recommended to ap-prove the inclusion in the revised capital pro-gramme for 1960-61 the erection of the pro-posed Civic and Administration Centre. Estimated cost £100,000.

Reigate, Surrey.—Co. E.C. have approved sketch plans for the provision of additional classroom at Gatton County Secondary School. Estimated cost £3,023.

Romford, Essex.—B.C. recommended to ap-prove following schemes for inclusion in the minor capital programme for 1960-61: Instal-lation of dressing and toilet facilities at Crow-land Playing Field, estimated cost £3,000; im-provements to lavatory accommodation at Parklands Junior School and Clockhouse In-fants' School, £1,410 and £2,135, respectively.

Royston, Herts.—U.D.C. have approved re-vised scheme for the erection of a bus station at Barkway Street.

Sandwich, Kent.—B.C. recommended to approve plans and invite tenders for the im-provement of the old Council houses.

Shrewsbury, Salop.—Highways Committee preparing plans for the provision of a number of multi-storey car parks in the town centre.

Southend, Essex.—B.C. propose the develop-ment of land at Delaware Road, Shoeburyness, for the erection of a multi-purpose building to provide a clinic, library and tenants' hall.

Southend, Essex.—B.C. have prepared plans for the erection of a cliffs pavilion or assembly hall including the provision of car parking accommodation.

Southport, Lancs.—B.C. recommended to ap-ply for sanction to borrow £28,244 for con-struction of catering premises at the Pier Head.

South Ruislip, Middx.—C.C. recommended to approve an extension of the perambulator shelter at Westmead Clinic. Estimated cost £1,200.

Stafford.—London Midland Area Board of the British Transport Commission recom-mended to approve scheme for the complete redevelopment of Stafford Railway Station. Estimated cost £1m.

Staines, Middx.—E. C. Pinks and Partners, Parliament Mansions, Victoria Street, London, S.W.1, are the quantity surveyors for proposed extensions at Manor Works, for W. E. Sykes, Ltd.

Stockport, Ches.—B.C. recommended to pre-pare report on the provision of a municipal hostel at King Street West; approve in principle schemes for the erection of a passenger shelter, public conveniences and a police box at Reddish Bus Terminus and the provision of two additional sitting rooms at Westleigh Children's Home; approve plans for the con-struction of 18 garages at Bridge Hall estate and improvements at Lyme Cage. Estimated cost £2,600 and £1,620 respectively.

B.C. recommended to apply for sanction to borrow £80,500 for extensions at Dial Stone Secondary School.

B.C. recommended to approve plans for the erection of a church and presbytery at Stock-port Road/Kensington Road for Rev. Canon Bell, Our Lady and The Apostles, Shawheath, Stockport.

Swansea.—Bills of quantities are nearing completion for the erection of a new arcade of 30 shops which will run from the Kings-way to Oxford Street, for Broadweir and Southern Properties, Ltd., 38-40 Finsbury Court, Finsbury Pavement, London, E.C.2. Clifford G. Vaughan and Ridgewell, 1 St. James Gardens, Swansea, are the architects for the scheme and L. C. Patterson and W. T. Seaton and Co., 11 Cathedral Road, Cardiff are the quantity surveyors.

Teignmouth, Devon.—U.D.C. to consider scheme for the provision of a multi-storey car park on the site of the old Town Hall.

Torquay, Devon.—Healing and Overbury, Rodney Lodge, Rodney Road, Cheltenham, are the architects for the rebuilding of a section of existing store in the Strand, for Bobby and Co., Ltd.

Truro, Corn.—R.D.C. to prepare plans for the erection of a public convenience at The Green, Chacewater.

Tunbridge Wells, Kent.—B.C. propose a scheme for the reconstruction and improve-ment of the swimming baths, at Monson Road. Estimated cost £30,000.

Twickenham, Middx.—B.C. have approved the following capital works for 1960-61. Extension of Hampton swimming pool, estimated cost £33,000; fencing at Fulwell Park, £1,300; repairs to Eel Pie Island, £4,000; sports stadium at Craneford Way, £26,000; erection of a pavilion and tennis courts at Broom Road pleasure ground, £15,000.

Walton-on-Thames, Surrey.—Co. E.C. have approved sketch plans for the provision of a practical block and library at County Sec-ondary Boys' School. Estimated cost £19,752.

Wanstead and Woodford, Essex.—B.C. have approved plans for the erection of a new branch library at Snakes Lane.

Whyteleafe, Surrey.—Co. E.C. have approved sketch plans for the provision of a small hall/dining room, 450-meal kitchen and boilerhouse at County Girls' School. Estimated cost £29,502.

Willesden, Middx.—B.C. have been recom-mended to carry out improvement works at the Mortuary, Salusbury Road. Estimated cost £2,270.

Wiltshire.—C.C. have approved sketch plans for new premises at Larkhill County Primary School and sanitary improvements at Downton C.E. Controlled and County Modern Schools.

Wimbledon, Surrey.—Co. E.C. have approved sketch plans for the provision of a new kitchen and small hall/dining room at County Girls' School. Estimated cost £29,414.

Workson, Notts.—Sketch plans have been prepared for the erection of a motel on the Doncaster By-pass at Blyth, for The Blyth Garages, Ltd. Architects for the scheme are Parker and Roberts, 47 Silver Street, Lincoln.

DEMOLITION

Luton, Beds.—R.D.C. to obtain tenders for the demolition of water towers at Cadding-ton and Slip End pumping stations and plant at Strealey and Studham.

Newbury, Berks.—B.C. propose the demo-lition of 23 houses at Waterloo Place and West Street.

ELECTRICAL

Blackburn, Lancs.—B.C. recommended to approve the rewiring of a further 840 pre-war houses, including complete renewal of existing lighting installation; installation of socket out-lets in each bedroom, sitting room and living room and installation of a cooker circuit and immersion heater circuit.

Cardiff.—City Council recommended to ap-prove the installation of new detectors and two additional traffic signals at the Wood Street/St. Mary Street junction. Estimated cost £1,400.

Farnborough, Hants.—U.D.C. propose the installation of traffic signals at Prospect Road bridge, Cove, and at junction of Farn-borough Road and Pinehurst Avenue.

Walsall, Staffs.—B.C. recommended to ap-prove, subject to M.T. approval, the installa-tion of traffic signal in Leicester Square.

FENCING

Hendon, Middx.—B.C. recommended to pro-vide fencing for Watling estate allotments. Estimated cost £2,500.

GAS AND WATER SUPPLY

Chelmsford, Essex.—B.C. recommended to proceed with the scheme for the laying of water main extensions at Marlborough Road and Rainsford Lane.

Chichester, Sussex.—City Co. recommended to apply for sanction to borrow £610 for the

laying of an additional length of water main at Elms Lane, West Wittering.

Clun, Salop.—R.D.C. to invite tenders for the construction of the Chirbury, Marton and Bent Lont water supply scheme.

Colne, Lancs.—B.C. recommended to apply for sanction to borrow £2,000 for laying of unspecified water mains and services.

Dewsbury, Yorks.—B.C. recommended to apply for sanction to borrow £5,000 for re-laying of existing water mains and laying of new water mains to private housing sites.

Doncaster, Yorks.—B.C. recommended to approve in principle scheme for installing pumps and pumphouse, etc., at Finningley No. 3 borehole. Quotations to be invited from selected firms for supply of the pumps. Estimated cost £25,000.

Forden, Monks.—R.D.C. to apply for sanction to borrow £370,560 for scheme to abstract water from the River Severn at Abernethy to afford a piped supply to the whole district.

Isle of Wight.—Water Board have approved schemes for laying water mains from the tower along Steyne Road, Bembridge, in Staplers Road, Newport, and for the first part of the development of Priory estate, Carisbrooke. Estimated cost £10,100, £2,754 and £2,074, respectively.

Macclesfield, Ches.—B.C. hope to invite tenders about March for the construction of the Dam for the Lamaload Reservoir at Rainow. Herbert Lapworth and Partners, 25 Victoria Street, London, S.W.1, are the consulting engineers for the scheme. Estimated cost £500,000.

Manchester.—City Council recommended to approve the construction of a filter plant at Godley which is part of the Longendale filtration scheme. Estimated cost £255,000.

Nottinghamshire.—Lanham Internal Drainage Board propose the construction of a new pumping station for land drainage at Ratcliffe sluice, between Cottam and Littleborough, and to replace the pumping station near Sturton-le-Steeple. Estimated cost £45,000.

Petworth, Sussex.—R.D.C. have approved scheme for the laying of water mains to serve the Loxwood area from Fritchfold Pond to Brenhurst Lane and to connect the northern end of Brenhurst Lane to Spy Lane. Estimated cost £2,310.

Salisbury and Wilton, Wilts.—Ministry have authorised R.D.C. to invite tenders for the Whiteparish water supply scheme.

Stockport, Ches.—B.C. recommended to appoint G. H. Hill and Sons (Manchester), 51 Moseley Street, Manchester, 2, as consulting engineers for the construction of the Errwood Reservoir and ancillary works and for the sinking of boreholes in the Goyt Valley; invite tenders from selected contractors for the supply of pumping plant for Wilmslow Pumping Station.

Taunton, Som.—B.C. recommended to approve scheme to link Kingston St. Mary with the Clatworthy water supply. Estimated cost £25,200.

Tunbridge Wells, Kent.—B.C. recommended to apply for sanction to borrow £6,349 for laying a water main from St. Mark's Road to Tangier pumping station; £8,036 for exploratory works at Haydens pumping station.

Ulverton, Lancs.—R.D.C. have approved replacement of the existing trunk water main from Newton-in-Cartmel to Flookburgh by the construction of a new pipeline of 7in. and 6in. in diameter. Ward, Ashcroft and Parkman, 38 The Temple, are the consulting engineers. Cost of scheme to be borne by the Grange Urban and Ulverston Rural Councils. Total estimated cost £64,266.

HEATING AND VENTILATING

Dewsbury, Yorks.—B.C. have appointed E. A. Pearce and Partners, 28 Baker Street, London, W.1, consulting engineers for the mechanical and electrical services at Thornhill Lees C.E. Infants' School.

HOUSING SCHEMES

Andover, Hants.—B.C. have approved the provision of 40 housing units during the year.

Ashby-de-la-Zouch, Leics.—R.D.C. have approved outline plans for six old people's houses in a single-storey block at Measham.

Basingstoke, Hants.—R.D.C. propose the erection of 30 dwellings at Belle Vue, Basing; five in the Street; Basing; four at Spring Close, Sherborne St. John; and two almshouses, Sherborne St. John.

Birmingham.—Housing Committee have approved the erection of 12-storey one-bedroom flats on small sites in the city.

Boston, Lincs.—B.C. propose the erection of 20 old folk's bungalows, clubroom and warden's house at Fydeall Rowley estate.

Bury St. Edmunds, Suffolk.—B.C. recommended to approve, subject to Ministry approval, the following housing programme: First phase—35 dwellings at Oliver Road and Wilcox Avenue; second phase—31 at Hollow Road, Rosemary Road and Eastgate Street;

third phase—34 at Raingate Street and Westley Road.

Cardiff.—City Council recommended to approve sketch plans for the proposed erection of new flats at Loudoun Square including the provision of laundry facilities.

Chichester, Sussex.—City Co. recommended to approve for inclusion in the housing programme for 1960 the erection of 27 two-bedroom bungalows and 53 two-bedroom flats at the North West Section, Parklands; 30 one-bedroom flats in a three-storey block at The Spitalfield (temporary) allotments area.

Colchester, Essex.—B.C. to prepare layout plans for the erection of flatlets for old people and two-storey flats at Shrub End estate.

Dawley, Salop.—U.D.C. recommended to approve plans for 57 dwellings at Stinchley Lane, for G. Wimpey and Co., Ltd., Hammer-smith Grove, London, W.6.

Dorchester.—B.C. recommended to approve plans for one block of eight flats, two blocks of four flats and one pair of houses together with stores at Whitefield Road.

Dover, Kent.—R.D.C. propose the erection of a pair of old people's bungalows at Glebe-land; have prepared layout plans for eight houses and four bungalows at Lenacre Lane, Whitfield.

Great Yarmouth, Norfolk.—B.C. to invite tenders for the erection of 25 aged persons' dwellings on the south part of the Caister Road nursery, five two-bedroom houses at Oxford Avenue, 15 at the rear of the shops on Magdalen Way; 12 two-storey flats and 13 three-bedroom houses and 10 two-bedroom houses on Wadham Road.

Hastings, Sussex.—B.C. recommended to approve layout plans for the erection of a block of dwellings at Clement Hill Road part of the Broomgrove housing estate.

Heckmondwike, Yorks.—U.D.C. have asked Gregory Housing Ltd., to submit prices for the erection of 30 two-bedroom and six three-bedroom houses on Dale Lane estate, and two blocks of four one-bedroom and one block of four two-bedroom flats at Lobley Street.

Heston and Isleworth, Middx.—B.C. propose to erect 96 houses and 36 flats on the north side of Cranford Lane, during 1960-61. Estimated cost £100,000.

Huntingdon.—R.D.C. to erect two-bedroom bungalows at Great Stukeley.

Hythe, Kent.—B.C. propose the development of land at Twiss Road and South Road for residential purposes.

Lancaster.—Lancaster and Morecombe Divisional E.C. recommend that a caretaker's house be built at the new Lancaster R.C. Secondary School which is to be built at Acrelands.

Leeds.—City Council recommended to approve, subject to Ministry approval, plans for second part of stage II of the Leeds Jewish Housing Association's Queenshill housing scheme providing for the erection of 85 dwellings. Estimated cost £123,000.

Lichfield, Staffs.—R.D.C. have approved, subject to Ministry approval, the erection of 55 dwellings at Alrewas, 53 at Armitage, 85 at Burntwood, two at Clifton, four at Harlaston, six at Efford, 16 at Whittington and 57 at Fazeley.

Manchester.—Town Planning Committee have approved the erection of 86 maisonnettes, 56 houses, two laundry blocks and 12 lock-up garages, Rochdale Road, Drinkwater Street and Woodland Street, Harpurhey.

March, I. of E.—U.D.C. have prepared draft plans for houses and bungalows at Upwell Road housing site.

Monmouth.—B.C. recommended to approve plans for 20 flats, sick bay and one caretaker's flat at rear of St. James House, St. James Square, for The Worshipful Company of Haberdashers.

Newbury, Berks.—B.C. propose the erection of old people's dwellings on land at the south side of Gloucester Road.

Newport, Mon.—B.C. recommended to approve plans for the erection of six pairs of houses at Ringland Way.

Poole, Dorset.—B.C. have approved plans for a block of 24 flats on the site of Firgrove Guest House and Country Club, Bournemouth Road.

Saffron Walden, Essex.—B.C. recommended to submit plans for Ministry approval for the erection of 43 dwellings for old people at Audley Road during 1960.

Salisbury and Wilton, Wilts.—R.D.C. propose the erection of 89 dwellings during the year.

Saltash, Corn.—B.C. recommended to approve plans and invite tenders for the erection of 20 houses and 12 garages at Grenfell Avenue, 5th extension.

South Cambridgeshire.—R.D.C. to prepare sketch plans for houses (for sale) at Sawston and Linton.

South Molton, Devon.—B.C. propose the erection of 10 bungalows at Kingsway during the current year.

South Wigston, Leics.—Drury Estates, Ltd., Oadby Park Estate, London, Road, Leicester, are developing an industrial and housing estate at South Wigston. Scheme includes 748 houses, a pedestrian-only shopping centre, public-house, school and open space. Work has commenced on the roads and sewers. Estimated cost £2m.

Stroud, Glos.—R.D.C. have submitted to Town Planning Authority for approval layout for 14 dwellings, including four old people's bungalows near Arthurs' Press, Woodchester.

Twickenham, Middx.—B.C. propose the conversion of two houses into flats for old people at 78 Park Road, Hampton Hill, and 11 Strawberry Hill Road. Estimated cost £9,314.

PLANT AND MECHANICAL TRANSPORT

Wimbledon, Surrey.—B.C. have approved the purchase of a mechanical street sweeper. Estimated cost £2,250.

PLAYING FIELDS, PARKS, ETC.

Aldridge, Staffs.—U.D.C. have approved, in principle, plan for a nursery garden for the parks department. Estimated cost £32,505.

Blackburn, Lancs.—B.C. recommended to approve the layout of the Whitehall playing field and demolition of stone boundary wall. Estimated cost £830.

Bolton, Lancs.—B.C. recommended to approve scheme and invite tenders for preparation of playing fields at Parkfield.

Bournemouth, Hants.—B.C. to prepare plans for an indoor bowling green.

Ealing, Middx.—B.C. propose the construction of a playing field on a six-acre site at Eliots Green Grammar School, Northolt Park estate. Estimated cost £13,530.

Felixstowe, Suffolk.—U.D.C. to prepare plans for a children's playground on the front sea lawns.

Hastings, Sussex.—B.C. recommended to approve scheme for inclusion in the 1960-61 programme for the drainage of playing fields at The Cleeve, Hastings Secondary School for Girls and Coghurst Field. Estimated cost £1,100.

Solihull, War.—B.C. have approved the first stage of the development of Elmdon Park. Estimated cost £17,500.

Taunton, Som.—B.C. recommended to approve scheme and prepare plans for the re-development of the Tone Lambs riverside area between the bridge and Castle Street. Estimated cost £50,000.

Woking, Surrey.—Co. E.C. have approved the reinstatement and fencing of 3.5 acres at Horsell C. of E. Primary School. Estimated cost £1,368.

ROADS, BRIDGES AND SITE WORKS

Adwick-le-Street, Yorks.—U.D.C. have approved preparation of plans for proposed dual carriageway on the Great North Road at Woodlands.

Andover, Hants.—R.D.C. to invite tenders for the making-up of the estate road at The Close, Hatherden. Estimated cost £1,700.

Armagh.—Robert F. Earley and Partners, 39 Victoria Street, London, S.W.1, are the consultants appointed to design five bridges in connection with the Birches-Verners section of the new North Armagh Motorway.

Bangor, Caerns.—B.C. recommended to approve plans for the making-up of Hwfa Road and Bulkeley Road, estimated cost £2,065 and £854 respectively; prepare bills of quantities and invite tenders for the Glanrafon widening and Deanery car park.

Blackburn, Lancs.—B.C. recommended for inclusion in next year's programme schemes for the continuation of the Larkhill improvement, Blackburn, between Noblett Street and Syke Street (estimated cost £4,720) and the improvement of the east side of Pennv Street, from Smithies Street to Syke Street (£15,000).

Bodmin, Corn.—B.C. recommended to submit to M.T. for approval scheme for extending the Town Wall westwards allowing the carriageway to be altered to lessen the cross fall of the road in Fore Street. Estimated cost £2,000.

Bournemouth, Hants.—B.C. recommended to apply for sanction to borrow £55,000 for the reconstruction of a section of Southbourne Promenade.

Cardiff.—City Council recommended to approve scheme for the widening of Castle Street and Duke Street. Estimated cost £2,500.

Castletown, I. of M.—Local Government Board considering scheme for the construction of a by-pass road from Farrant's Flatt to the car park.

Colne, Lancs.—Borough Engineer to prepare plans, etc., for making-up Phillips Lane.

Doncaster, Yorks.—B.C. recommended to apply for sanction to borrow £59,000 for road reconstruction schemes as follows: Barnby Dun Road (A.18 to Wheatley Hall Road); A.18 Thorne Road (Sandall Park Drive to

Wheatley Hall Road) and Highfield Road; to approve for inclusion in the 1960/61 estimates, £1,500 for levelling and over-soiling certain kerbs and footstones at Doncaster cemetery.

Dover, Kent.—B.C. to apply for sanction to borrow £800 for the resurfacing with tarmacadam of two tennis courts at Brook House.

Ealing, Middx.—B.C. have approved in principle the proposed improvement in Uxbridge Road near the junction with Northfield Avenue and Drayton Green Road.

Edmonton, Middx.—C.C. have approved the widening of the footpath on the western side of Church Street between Lower Edmonton Station and Cedars Road. Estimated cost £3,200.

C.C. propose the improvement of Angel Place, £4,752.

Hastings, Sussex.—B.C. recommended to prepare plans and estimates for the improvement of Winchelsea Road between the Hastings Secondary Modern School and the borough boundary.

Hertford.—B.C. recommended to prepare major scheme for the widening and improvement of Hertingfordbury Road.

Heston and Isleworth, Middx.—B.C. propose road improvements at Cranford Lane during 1960-61. Estimated cost £39,500.

Heywood, Lancs.—B.C. recommended to apply for sanction to borrow £1,040 for widening of Argyle Street and £1,375 for asphalt surfacing of Mount Street from Schofield Street to Manchester Street.

Holland.—M.T. have approved, in principle scheme for using the roadway and the track of the former M. and G.N. railway line over the swingbridge at Sutton Bridge to provide a dual carriageway from Sutton Bridge to the county boundary at Wingland, for C.C.

Kingston-upon-Thames, Surrey.—B.C. have recommended C.C. to include the following major improvements on classified roads, during the next financial year: Surbiton Road improvement, between Maple Road and Surbiton Crescent, estimated cost £7,000; widening of Lower Ham Road in front of Electricity Power Station, £11,000; Clarence Street/Eden Street junction improvement, £75,000.

Leeds.—City Council recommended to apply for sanction to borrow £41,000 for construction of roads, sewers and site works for sites A, B and D on the Swinnow estate, area 2; £13,600 for road and sewer works for construction of a cul-de-sac off Kentmere Avenue, Seacroft; to approve layout plan for a cul-de-sac on the Brackenwood estate, for submission to the Town Planning Committee and to apply for sanction to borrow £2,600 for road and sewer works in connection with the cul-de-sac. City Council recommended to approve improvement works in Upper Cross Street, Flax Place, Richmond Street and Saxton Street. Estimated cost £15,650.

Leeds.—City Council have approved in principle redevelopment of the central island in City Square. Estimated cost £20,000.

Lincoln.—City Council recommended to include the provision of four hard tennis courts in the layout of Ermine estate recreation ground.

March, I. of E.—U.D.C. to prepare alternative plans for the improvement of Elliott Road.

Morley, Yorks.—B.C. recommended to approve, in principle, layout of the Bruntcliffe Lane garage site. Estimated cost £960.

Nelson, Lancs.—B.C. recommended to approve expenditure of £1,500 on repair and re-laying of flagging in public streets.

Newcastle-under-Lyme, Staffs.—B.C. recommended to obtain tenders for preliminary roadworks for 120 houses at the Harrowby Drive/Sutherland Drive/Whitmore Road site; proceed with scheme for the provision of a temporary car park at the corner of Rathbone Avenue and High Street.

Newport, Mon.—B.C. recommended to approve for inclusion in the 1960-61 programme schemes for the widening of Cardiff Road, construction of an industrial road (Flat Wood to Spencer works entrance, including Llisserry Overbridge) and the widening and improvement of Bettws Lane. Estimated cost £71,000, £334,000 and £69,298 respectively; apply for sanction to borrow £3,585 for alterations and extension of No. 1 Car Park, Civic Centre, and £4,000 for the provision of footbridge, Bank Street to St. Julians, Glebelands.

Oxford.—City Council recommended to invite tenders for the construction of a car park at St. Clements, near Magdalen Bridge. Estimated cost £11,000.

Portsmouth.—City Council recommended to apply for sanction to borrow £5,550 for road works at Barncroft Way.

Rothwell, Yorks.—Ministry have approved estimate for construction of footpaths, dwarf boundary walls, boundary fencing and part widening of Oulton Lane at Highfield Lane housing estate, Woodlesford, for U.D.C.

Stretford, Lancs.—B.C. recommended to approve in principle scheme for the reconstruction of district roads. Estimated cost £20,000.

Sunderland, Dur.—B.C. recommended to approve in principle scheme for construction of a new classified road between North Bridge Street and Dame Dorothy Street at an estimated cost of £45,000.

Taunton, Som.—B.C. have submitted to C.C. for approval plans for the construction of a new road with river bridge from St. Pauls to the Odeon.

Tottenham, Middx.—B.C. propose the following: Redevelopment of sites at 494/524 West Green Road and 1 and 2 Milton Road, estimated cost £4,359; provision of roads, sewers and public lighting services at Northumberland Park No. 2 housing redevelopment, £16,238; roads, sewers and public lighting at Park Lane Close housing redevelopment, £3,821.

Tunbridge Wells, Kent.—B.C. recommended to approve scheme for the extension of the borough cemetery, including the provision of roads and sewers. Estimated cost £7,133; prepare detailed drawings and bills of quantities and, subject to Ministry approval, invite tenders for the construction of roads and sewers for the remainder of the Sherwood estate.

Tynemouth, Northumb.—Town Improvement and Streets Committee have approved final plans for construction of a traffic roundabout at the junction of Rake Lane and Preston North Road.

Wakefield, Yorks.—City Council have approved plans, etc., for traffic island at junction of George-a-Green Road and Thornes Road, for submission to the M.T.

West Hartlepool, Dur.—Borough Engineer has prepared a £4,371 scheme for street works in Lawson Road and Queen Street. No contracts let. Plans and estimates are also to be prepared for the construction of a £7,000 traffic roundabout at the junction of Stockton Road and York Road.

Wolverhampton, Staffs.—B.C. recommended to approve, subject to M.E. approval, scheme for laying out paved playground at Underhill Infants' School. Estimated cost £1,250.

Wycombe, Bucks.—R.D.C. to invite tenders for the construction of a car park at the rear of the old Royalty Cinema at Bourne End and provision of an access road to Marlow Road. Estimated cost £5,470 and £1,630 respectively.

SEWERAGE, SEWAGE AND REFUSE DISPOSAL

Chippenham, Wilts.—B.C. recommended to invite tenders from selected contractors for connecting the soil drains of the four houses on the south side of Hardenhuish Lane to the sewer of the Hardenhuish private enterprise site.

Consett, Dur.—U.D.C. to consider detailed plans and estimates for sewerage works at Iveston.

Freebridge Lynn, Norfolk.—Planning permission granted for the construction of sewage disposal works at Chequers Road, Grimston, for R.D.C.

R.D.C. to prepare revised sewerage scheme for South Wootton.

Kingsclere and Whitechurch, Hants.—R.D.C. have prepared scheme for extensions to the sewers and sewage disposal works at Tadley. Estimated cost £99,500.

Kingswood, Glos.—U.D.C. to apply for sanction to borrow £140,000 for the construction of a storm water sewer in the New Cheltenham area.

Leeds.—City Council recommended to approve scheme for culverting ditch on land off Raynville Road, Bramley. Estimated cost £1,975.

Leeds.—City Council recommended to approve the construction of a relief sewer from the junction of Sutherland Avenue and Devonshire Crescent to an existing culvert in Old Park Road. Estimated cost £15,200.

Leyton, Essex.—B.C. recommended to approve a scheme for the provision of a children's playground at Skeltons Lane recreation ground.

Petersfield, Hants.—R.D.C. propose the construction of a sewerage and sewage disposal scheme for Greatham and Weston, during 1960/61. Estimated cost £26,352.

Saltash, Corn.—B.C. recommended to apply for sanction to borrow £900 for provision of sewers at Ball Park.

Stratford-upon-Avon, War.—R.D.C. have applied for sanction to borrow £9,885 for the construction of sewage disposal works adjacent to Preston-on-Stour; to prepare a main drainage scheme for Welford-on-Avon and Binton.

Stretford, Lancs.—B.C. recommended to approve in principle scheme for culverting and land drainage (east of Barton Clough School approach road to link with existing culverted length) at Longford Brook. Estimated cost £5,000.

Wellington, Salop.—R.D.C. have approved sewerage and sewage disposal schemes for Sambrook, Preston and Horton and Waters Upton. Estimated cost £29,100, £42,700 and £56,200, respectively.

STREET LIGHTING

Charlton Kings, Glos.—U.D.C. considering an improved street lighting scheme including the provision of 108 additional lamps. Estimated cost £3,227.

Croddall, Hants.—Parish Council have approved scheme for the provision and erection of street lamps. Estimated cost £1,000.

Dewsbury, Yorks.—B.C. recommended to apply for sanction to borrow £7,700 for conversion of gas lighting to electric lighting, within the Borough.

Manchester.—City Council recommended to approve plans for provision of new street lighting in the Oldham Road re-development area, Miles Plating, and installation of seven new street lamps in Naylor Street, Miles Plating.

Newport, Mon.—B.C. recommended to proceed with scheme for the erection of sodium vapour lanterns in Chepstow Road. Estimated cost £3,200.

Sandwich, Kent.—B.C. recommended to approve in principle scheme for the lighting of Ramsgate Road.

CONTRACTS

Full details of the Contracts marked * will be found in our Advertisment Columns.

BUILDING AND DECORATING (See also Housing Schemes)

Bangor, Down.—Supply and fixing of purpose made steel windows at Bangor Grammar School, for the governing body. Documents from H. A. Patton, architect and town planning consultant, 29 Wellington Place, Belfast. Deposit £2 2s., cheques payable to the Governors. Tenders by Feb. 1.

Barnsley, Yorks.—Erection of extensions to the New Lodge estate, for B.C. The building is a brick built, flat roofed, single-storey structure approx. 910 sq. ft. in area. Documents from the Borough Engineer, Town Hall, Barnsley. Deposit £2 2s. Tenders by Jan. 27.

Belfast.—Repointing and rebuilding work at Beechfield Primary School, Bryson Street, for City Council. Documents from Education Architect's Department, 40 Academy Street, Belfast, 1. Tenders by Feb. 4.

Batley, Yorks.—Erection of public conveniences at new bus station, St. James Street, for B.C. Documents from Borough Engineer, West House, Hanover Street, Batley. Tenders by Feb. 1.

Batley, Yorks.—Separate trades for erection of public conveniences at the new bus station, St. James Street, for B.C. Documents from the Borough Engineer, West House, Hanover Street, Batley. Tenders by Feb. 1.

***Birmingham.**—New swimming bath, for City Council. Apply by Feb. 1.

***Brighton, Sussex.**—Supply and erection of three sectional buildings, for B.C. Tenders by Feb. 6.

Bromley, Kent.—Supply and erection of 21 precast concrete garages in two batteries on a housing estate, for B.C. Documents from Borough Engineer, Municipal Buildings, Bromley. Tenders by Feb. 1.

Buckinghamshire.—Redecorations and repairs at the following properties, for C.C.: Edlesborough School—redecorations and repairs, £500; Aylesbury, St. Mary's School—external painting and repairs, £500; Aylesbury, The Grange School—redecorations, £1,000. The bulk of the work will be carried out during the school holidays. The figures are given as a rough guide to the size of the contracts. Applications to the County Architect, County Offices, Aylesbury, by Jan. 30.

Canterbury.—Erection of new kitchen accommodation at the Frank Hooker Secondary Modern School, London Road, for City Council. The kitchen will be an extension to the existing school premises. Applications to John L. Berbiars, city architect and planning officer, Municipal Buildings, Canterbury, by Jan. 22. Deposit £2 2s. Tenders by Feb. 15.

Cardiff.—Construction of two annexes at the existing Preswylfa Occupational and Training Centre, Clwyf Road, Canton, for City Council. The works comprise two single-storey buildings to provide multi-purpose classrooms, cloakrooms and lavatories and site works. Documents from the City Architect's Department, 12 Park Place, Cardiff. Deposit £2 2s. (cheques payable to Corporation). Tenders by Feb. 10.

Cardiff.—Construction of a precast concrete roof to Rhiwbina service reservoir, capacity 1,500,000 gallons, for City Council. The work consists of the fabrication and erection of approx. 2,400 sq. yd. of precast concrete roof with supporting beams and columns, together with roof finishes, etc. Documents from the Water Engineer and Manager, City Hall, Cardiff. Deposit £2 2s., cheques payable to Corporation. Tenders by Feb. 9.

Chapel-en-le-Frith, Derbys.—Construction of public conveniences and bus shelter, Hayfield Road East, for R.D.C. Documents from the

Engineer and Surveyor, Council Offices, Hayfield Road, Chapel-en-le-Frith, via Stockport. Deposit £2 2s. Tenders by Jan. 30.

Chesterton, Cambs.—External repainting of the following, for R.D.C.: (Group a) Cotton, 33 dwellings and two garages; (b) Cottenham, 36 dwellings; (c) Fen Ditton, 18 dwellings; (d) Graveley, 12 dwellings; (e) Madingley, seven dwellings; (f) Over, six dwellings; (g) Lt. Wilbraham, 24 dwellings. Documents from the Architect and Housing Manager, Chesterton Rural District Council, County Hall, Hobson Street, Cambridge. Deposit £2 2s., cheques payable to R.D.C. Tenders by Feb. 10.

Cookstown, Tyrone.—Erection of sculleries at four labourers' cottages at Corkhill, Corvagh, Kilmascally and Mullmanhoe, for R.D.C. Documents from James McCammon, clerk to the Council, The Boardroom, Cookstown. Deposit £3 3s. Tenders by Feb. 12.

Croydon, Surrey.—Hostel for 60 old people on Ashburton housing estate, for B.C. Documents from the Borough Engineer, Town Hall, Croydon. Tenders by Feb. 17.

Cuckfield, Sussex.—Erection of a timber building on Lindfield Common and ancillary works, for U.D.C. Documents from the Surveyor, Council Offices, Oaklands, Haywards Heath. Deposit £1 1s. Tenders by Jan. 27.

Dagenham, Essex.—Alterations and extensions to Dagenham County High School, to provide one additional science laboratory and demonstration room, for B.C. Documents from the Borough Surveyor, Civic Centre, Dagenham. Deposit £2 2s. Tenders by Feb. 5.

Durham.—Following, for C.C.: Billingham New Day School—(a) heating installation, (b) electrical installation, (c) fencing; Boldon Colliery Modern Schools—repair and renewal of wood floors; Houghton-le-Spring Modern School—additions and alterations—(a) heating installation, (b) electrical installation, (c) hardwood strip floors, (d) suspended ceilings; Jarrow Central Modern School—improvements to biology room; Ryhope Modern School—(a) erection of additional accommodation, (b) heating installation, (c) electrical installation; Wheatley Hill County School—renewal of electrical installation; Wingate County Infant School—(a) renewal of wood floors, (b) heating installation; Ryton Child Welfare Centre and Dental Clinic—erection. Applications to County Architect, South Street, Durham, by Jan. 27.

Durham.—Supply and delivery to Castle Eden Bridge of 25 prestressed concrete beams, each 42 in. ft. to a prepared design, for C.C. Documents from the County Surveyor, Aykley Heads, Durham. Tenders by Jan. 29.

Eastbourne, Sussex.—Erection of the following, for B.C.: (1) Three brick-built garages at site off Etchingham Road, Langney Village; (2) six brick-built garages at site off Ashgate Road, Langney Village; (3) ten brick-built garages at site off Timberley Road, Hampden Park; (4) six brick-built garages and four stores at site off Rockhurst Drive, Eastbourne. Applications to the Borough Surveyor, 2/4 Saffrons Road, by Jan. 20. Deposit £2 2s., cheques payable to Corporation. Tenders by Feb. 15.

Feltham, Middx.—External repainting of houses and garages, in four contracts as follows, for U.D.C.: 1—339 houses and 36 garages; 2—107 houses; 3—188 houses and 52 garages; 4—224 houses and three garages. Applications to the Engineer and Surveyor, Council Offices, Feltham, by Jan. 30.

Fifehire.—Proposed lavatory accommodation at Denbeath Primary School, for C.C. Applications to County Clerk, Cupar Fife, by Jan. 27.

Grimsby, Lincs.—Following works required in the erection and completion of the Grantham Avenue Two-Form Entry Primary Junior Mixed School, off Edge Avenue, Scartho, for Education Committee: (a) General building contract, including foundations, boilerhouse and superstructure works to the main two-storey and subsidiary single-storey blocks, together with drainage, roads, paths, fencing and other ancillary works; (b) heating and hot water installations with oil-fired boiler plant; (c) electrical installations. Documents from the office of J. V. Oldfield, borough engineer and architect, Municipal Offices, Town Hall Square, Grimsby. Deposit £5 each. Tenders by Feb. 13.

Grimsby.—Following works required in the remodelling of Edward Primary Infants' School, Edward Street, for B.C.: (a) General building contract, comprising alterations and extensions to the existing single-storey building, together with drainage and other ancillary works; (b) heating and hot water installations with oil-fired boiler plant; (c) electrical installations. Documents from J. V. Oldfield, engineer and architect, Municipal Offices, Town Hall Square, Grimsby. Deposit £5 each contract. Tenders by Feb. 13.

Halifax, Yorks.—Alterations and extensions at Haugh Shaw Secondary School, for B.C. Involving the demolition of the existing dining

room and servery and the provision of a new servery. Documents from the Borough Engineer, Crossley Street, Halifax. Deposit £2, cheques payable to Corporation. Tenders by Feb. 2.

Hampshire.—Erection of Denmead New County Junior and Infants' School, for C.C., comprising four classrooms, staff and toilet accommodation, etc., and having a floor area of approximately 4,150 sq. ft. Applications to the County Architect, The Castle Winchester, by Feb. 11. Deposit £2 2s. (cheques payable to County Treasurer).

Hebburn, Dur.—Following to 24 flats and maisonettes, Station Road (1), for U.D.C.: (1) Plumbing; (2) electrical installations; (3) plastering. Documents from the Engineer and Surveyor, Council Offices, Argyle Street, Hebburn. Deposit £3 3s. Tenders by Feb. 9.

Hemel Hempstead, Herts.—Erection of greenhouses, boilerhouse, chimney and heating apparatus, for B.C. Tenders by Feb. 9.

Heston and Isleworth, Middx.—Alterations and temporary additions to Central Library, Treaty Road, Hounslow, for B.C. Documents from Engineer and Surveyor, 88 Lampton Road Hounslow. Tenders by Feb. 3.

Heston and Isleworth, Middx.—Estate office and 10 garages on Cranford Lane housing estate, Heston. Documents from the Engineer and Surveyor, 88 Lampton Road, Hounslow. Tenders by Feb. 17.

Holland, Lincs.—Erection of school at Old Leake, for C.C. Deposit £2 2s. Tenders by Feb. 2.

Holland.—Erection of a gymnasium at Boston Kitwood County Secondary Girls' School, for C.C. Documents from the Architect, County Hall, Boston. Tenders by Feb. 8.

Huddersfield.—Covering of circular service reservoirs at Ladyhouse Lane, Newsome, and Clough Head, Longwood, with single span light alloy (or similar) roofs, for B.C. Documents from the Waterworks Engineer, 24 Ramsden Street, Huddersfield. Deposit £2 2s. Tenders by Feb. 15.

Hungerford, Berks.—Reconstruction and modernisation of Cecil Cottages, for R.D.C. Documents from E. L. Hawkins, surveyor, The Priory, Hungerford. Deposit £2 (cheques payable to R.D.C.). Tenders by Feb. 10.

Keighley, Yorks.—Erection of scullery, Haworth Primary School, for B.C. Documents from E. G. Felgate, borough architect, College Street, Keighley. Deposit £1. Tenders by Feb. 1.

Kerrier, Corn.—Improvements to the following, for R.D.C.: Argal View, Treverva—six houses; Carnesw Crescent, Mabe—six houses. Documents from C. R. Corfield and Son, architects, Strand Chambers, 9 Killigrew Street, Falmouth. Deposit £1 1s. each contract, payable to R.D.C. Tenders by Feb. 8.

Leamington, Warwick.—Painting work at new R.C. Primary School, Park Road, Bishopbriggs, for C.C. Applications in writing to Ian V. Paterson, county clerk, Lanarkshire House, 191 Ingram Street, Glasgow, by Jan. 27.

Lancashire.—Following, for C.C.: Demolition of 18 semi-sunk air-raid shelters including clearing and levelling of site at Huyton St. Dominic's R.C. School; erection of two additional classrooms (double storey) in traditional construction with felted roof including site works, drainage, services and finishes at Oswaldtwistle Rhyddings Secondary School; erection of three pairs of police houses at Widnes; erection of changing rooms at Darwen Set End playing fields—building to be of Derwent construction (to be supplied and erected by nominated sub-contractors, builders' work to include foundations, drainage, site works, services and finishes. Applications to the County Architect, P.O. Box 26, County Hall, Preston, by Jan. 25.

Lewes, Sussex.—Construction of an office block, clothing store, toilets and new terraces, together with incidental works in connection therewith, for B.C. Applications to the Engineer and Surveyor, Town Hall, Fisher Street, Lewes, by Jan. 23.

Liverpool.—Alterations to Loraine Street Secondary Modern School for Girls, for City Council. Documents from City Architect and Director of Housing, Blackburn Chambers, Dale Street, Kingsway, Liverpool, 2. Deposit £2 2s. Tenders by Feb. 9.

Macclesfield, Ches.—Extension and reconditioning of the Poynton Almshouses, for R.D.C. Documents from the Engineer and Surveyor, King Edward Street, Macclesfield. Deposit £2. Tenders by Feb. 12.

Manchester.—Additional sanitary accommodation at Ross Place Infants' School, Ardwick, for City Council. Documents from City Architect, P.O. Box 488, Town Hall, Manchester. Tenders by Feb. 3.

Manchester.—Extensions and alterations to Nelson Street, Junior and Infants' School, Miles Platting, for City Council. Documents from City Architect, P.O. Box 488, Town Hall. Tenders by Feb. 3.

Mildenhall, Suffolk.—Conversion of the Plough and Duck Inn, Burnt Fen, into two cottages, for R.D.C. Documents from the Engineer and Surveyor, Council Offices, Mildenhall. Tenders by Feb. 1.

Mullingar, West Meath.—Erection and completion of a milk separating station at Green Road, for B.C. Documents from Philip Ginnell, secretary, Westmeath Co-operative Agricultural and Dairy Society, Ltd., 31 Pearse Street, Mullingar. Deposit £10. Tenders by Jan. 27.

Nantwich, Ches.—Pile and beam foundations, Wistaston Bungalows, for R.D.C. The work comprises 48 piles (depth 10ft. to 15ft.), together with the necessary reinforced caps and beams to foundations. Documents from G. T. Jury, engineer and surveyor, Council Offices, Stapley House, Stapley. Deposit £1 1s. Tenders by Jan. 28.

Northamptonshire.—(a) Erection of, and (b) electrical installation to, Weston Favell Secondary Modern School, for C.C. Construction, partly in two storeys, will be of brickwork. Applications to County Architect, County Hall, Northampton, by Jan. 25.

Orpington, Kent.—Alterations and additions at civil defence training centre, Crofton Pound Hill, Orpington, for U.D.C. Works involve dismantling existing buildings and erecting new prefabricated building, formation of new entrance and steps and internal alterations to partition walls of main building. Documents from Engineer and Surveyor, Civic Offices, The Walnuts, Orpington. Tenders by Jan. 30.

Portsmouth.—Erection of a new kitchen at Fletcher School, for City Council. Applications to the City Architect, 1 Western Parade, Portsmouth, by Jan. 25. Deposit £1.

Radcliffe, Lancs.—Public library extension scheme, for B.C. Documents from the Borough Engineer and Surveyor, Town Hall, Radcliffe. Tenders by Feb. 2.

Rochdale, Lancs.—Enclosing the open corridors at Norden County Secondary School, for B.C. Documents from Borough Surveyor, Town Hall, Rochdale. Tenders by Feb. 8.

Ruislip and Northwood, Middx.—Redecoration of council houses, 1960/61, for U.D.C. Applications to the Surveyor, Council Offices, Northwood, by Jan. 27.

***St. Albans, Herts.**—Alterations and additions to City Museum, for City Council. Deposit £2 2s. Tenders by Feb. 18.

St. Albans, Herts.—Improvements and repairs to 58 houses, Lybury Lane, Redbourn, for R.D.C. Applications for inclusion in the selected contractors list should be made to the Engineer and Surveyor, Council Offices, Upper Lattimore Road, St. Albans, by Feb. 5.

Salford, Lancs.—Interior and exterior painting of two dressing huts, each 60ft. by 20ft. at the David Lewis Recreation Ground, Frederick Road, for City Council. Documents from the Director of Parks, Baile Hill Park, Salford, 6. Tenders by Jan. 29.

Scotland.—Civil engineering and building works to extend the high voltage transformer sub-station at Dores Road, Inverness, for Hydro-Electric Board. Documents from the Board's Chief Electrical and Mechanical Engineers, 16 Rothesay Terrace, Edinburgh, 3. Deposit £2 2s.

South Cambridgeshire.—External painting and repairs to houses in the following parishes, for R.D.C.: Abington, Pigotts, two; Arrington, 20; Balsham, 22; Barrington, 34; Bassingbourn, 24; Castle Camps, six; Fowlmere, 20; Foxton, 44; Gamlingay, 26; Great Chishill, eight; Great Eversden, 10; Guilden Morden, 24; Heydon, two; Hildersham, 16; Horseheath, 16; Ickleton, eight; Linton, 36; Littleton, 26; Longstowe, four; Melbourn, 100; Meldreth, 20; Shepreth, 16; Thriplow, 24; West Wrattling, 12; Weston Colville, 10; Wimpole, four. Applications to the Architect and Surveyor, South Cambridgeshire Rural District Council, County Hall, Hobson Street, Cambridge. Tenders by Jan. 30.

Stourbridge, Worcs.—Exterior painting and decoration of 673 houses on various estates, for B.C. The work will be divided into eight groups of between 12 and 126 houses per group. Documents from H. W. Morris, engineer and surveyor, Council House, Stourbridge. Deposit £2 2s. Tenders by Feb. 10.

Staines, Middx.—Erection of 17 garages to be constructed within the curtilages of existing Council houses, for U.D.C. Documents from the office of the Engineer and Surveyor, 240 London Road, Staines. Deposit £2 2s. Tenders by Feb. 1.

Stockport, Ches.—Erection of two additional classrooms, Taxal Special School, Whaley Bridge, Derbyshire, comprising stone construction, slate roof, and extensions to heating and electrical installations, for B.C. Applications to Borough Architect, Town Hall, Stockport. Tenders by March 2.

Stourbridge, Worcs.—Erection of nine brick-built garages, the construction of approximately 216 sq. yd. of hardstanding and incidental works, including drainage at Norton housing estate, for B.C. Documents

from H. W. Morris, borough engineer and surveyor, Council House, Stourbridge. Deposit £2 2s. Tenders by Feb. 10.

Stroud, Glos.—Following painting contracts during 1960, for R.D.C.: (H/31) Twenty-eight houses Cashes Green; (H/32) 23 properties at King's Stanley; (H/33) 13 properties at Middleyard, King's Stanley; (H/34) 50 bungalows at Leonard Stanley; (H/35) 20 houses at Woodchester; (H/36) six houses at Woodchester; (H/38) six houses at Bisley; (H/39) six houses at Oakridge; (H/40) 16 houses at Randwick; (H/41) eight properties at Kingscourt; (H/42) two houses at Brimscombe; (H/43) six flats at Thrupp. Applications to Housing Manager, Council Chambers, John Street, Stroud, stating contracts in which interested. Tenders by March 1.

Sunderland, Dur.—Supply and laying of wood block floorings to the Grindon Village Infants' School, for B.C. Documents from Borough Architect, Grange House, Stockton Road, Sunderland. Tenders by Feb. 5.

Sunderland, Dur.—Repairs to 9 and 10 Chester Terrace, for B.C. Documents from Borough Architect, Grange House, Stockton Road, Sunderland. Tenders by Feb. 1.

Sunderland, Dur.—Staff lavatory accommodation at Havelock Secondary Modern School, for B.C. Documents from Borough Architect, Grange House, Stockton Road, Sunderland. Tenders by Feb. 5.

Swansea.—Erection of a primary school at Sketty Park, for B.C. Applications to the Architect, The Guildhall, Swansea, by Jan. 25. Deposit £5.

Taunton, Som.—Alterations, repairs and redecorations to 76 Wood Street and 32 Queen Street, for B.C. Documents for one or both of the works from H. G. Cox, housing maintenance superintendent, Lambrook Farm Depot, Priory Avenue, Taunton. Tenders by Feb. 2.

Wells, Som.—Erection of a block of eight lock-up garages and the carrying out of ancillary works at Holmlea, Wookey Back Lane and Draycott, for R.D.C. Documents from Engineer and Surveyor, Rural Council Offices, Wookey Hole Road, Wells. Deposit £2 2s. each contract. Tenders by Feb. 9.

West Penwith, Corn.—Erection of the following, for R.D.C.: (a) Public conveniences at Treen village in the parish of St. Levan; (b) public conveniences at Nancledra village in the parish of Towednack. Documents from F. Hartley, Surveyor's Department, Council Offices, Chapel Street, Penzance, Cornwall. Deposit £1 ls. each, cheques payable to R.D.C. Tenders by Feb. 15.

West Riding.—Adaptation works at Moorlands Camp, Wetherby, to provide divisional office accommodation, for C.C. Documents from the Divisional Architect, Salisbury Buildings, Albert Street, Harrogate. Tenders by Feb. 1.

West Sussex.—Following, for C.C.: (1) Seven-class instalment of infants' school at Southwick, near Brighton (job 5647); (2) three-class instalment of infants' school at Roffey, near Horsham (job 5721); (3) two-bay fire station at East Preston, near Littlehampton (job 6227). Applications to the County Architect, County Hall, Chichester, by Jan. 25.

Winsford, Ches.—Supply and erection of 22 prefabricated concrete garages, Dene estate and Meadow Bank, for U.D.C. Documents from the Engineer and Surveyor, Council Offices, Over Hall, Winsford. Tenders by Feb. 1.

Worcester.—Interior redecoration of the pump house at the waterworks and painting of the scraper at Lavender Road, for City Council. Documents from City Engineer and Surveyor, 22 Bridge Street, Worcester. Deposit £2 2s., cheques payable to Corporation. Tenders by Feb. 3.

Worksop, Notts.—Erection of a butcher's shop at Langold, near Worksop, for the Worksop Co-operative Society, Ltd.. Applications to the office of the architects, J. Haslam and Sons, Ryton Chambers, Newcastle Avenue, Worksop, by Jan. 23. Deposit £3 3s. (cheques payable to Society).

Wycombe, Bucks.—Screeding and felting of flat concrete roofs of certain Council houses in Clapton Approach, Woodburn, for R.D.C. Documents from the Council's Housing Manager, 28 High Street, High Wycombe. Tenders by Feb. 12.

Wycombe, Bucks.—External painting of houses in the following areas, for R.D.C.: Princes Risborough; Speen; Naphill; Tylers Green; Flackwell Heath; Lane End; Turville; Skirmett; Hambledon. Documents from the Housing Manager, 28 High Street, High Wycombe. Tenders by Feb. 13.

CLOTHING AND TEXTILES

Bolton, Lancs.—Supply of reefer jackets, corduroy trousers, boiler suits, bib-and-brace overalls, and overall jackets, for B.C. Documents from Cleansing Superintendent, Falcon Street Depot, Bolton. Tenders by Jan. 30.

Bradford.—Following, for City Council: Fire tunics and trousers, leather fire boots, shoes, undress jackets and trousers, officers' undress uniforms, gaberline raincoats, shirts, socks, black ties, white blouses and waterproof over-trowsers. Documents from the Chief Fire Officer, Fire Brigade Headquarters, Nelson Street, Bradford, 5. Tenders by Feb. 8.

Port Talbot, Glam.—Supply of workmen's waterproof clothing and overalls, for B.C. Documents from Borough Engineer's Department, Municipal Buildings, Port Talbot. Tenders by Jan. 29.

Stirlingshire.—Supply and delivery of uniforms for school janitors, for C.C. Documents from James D. Kennedy, county clerk, County Offices, Viewforth, Stirling. Tenders by Jan. 29.

DEMOLITION

Bradford.—Demolition and clearing of the following properties, for City Council: (1) Block E, warehouse and office property, two to six storeys high, bounded by Hall Ings, Bentley Street, Leeds Road, and Booth Street. Approximate site area 2,086 sq. yd.; (2) house property 25-41 Brunswick Road, Greengates; (3) brass foundry and machine shop, 310 Wakefield Road. Documents from Engineer and Surveyor, Town Hall, Bradford. Deposit £2 2s. for No. 1. Tenders by Feb. 1.

Downham, Norfolk.—Demolition of buildings, clearance of site and incidental works at Priory Road, Downham Market, for R.D.C. Documents from A. B. Harrison, clerk of the Council, Council Offices, London Road, Downham Market. Tenders by Jan. 30.

Evesham, Worcs.—Demolition of buildings and site clearance at Oat Street, comprising a number of two-storey cottages and outbuildings, for B.C. Documents from the Surveyor, 1 Leicester Gables, High Street, Evesham. Deposit £2 2s. Tenders by Jan. 27.

Lancaster.—Demolition of Springfield Cottage, Ashton Road, for Lancaster and Kendal Hospital Management Committee. Documents from the Superintendent Engineer, Royal Lancaster Infirmary, Lancaster. Tenders by Jan. 29.

***Oxford.**—Demolition of A.R.P. shelters, for City Council. Tenders by Feb. 18.

ELECTRICAL

Cardiff.—Electrical installation in extension to Glentaf County Secondary Mixed School, for City Council. Documents from Surveyor, City Hall, Cardiff. Deposit £2 2s., cheques payable to Corporation. Tenders by Jan. 29.

Hull.—Electrical installation to (a) 92 dwellings, land north of Boothferry Road; (b) 26 dwellings, Springhead Avenue, for City Council. Documents from Andrew Rankine, Guildhall, Kingston-upon-Hull. Deposit £2 each contract payable to City Treasurer. Tenders by Jan. 27.

Kirkcaldy, Fife.—Supply and installation of 300 electric cookers and 300 electric wash-boilers, for B.C. Documents from the Burgh Engineer, Town House, Kirkcaldy. Tenders by Feb. 8.

Northern Ireland.—Supply, delivery and erection at Coolkeeragh power station, Londonderry, of the following, for Electricity Board: Main connections between generator and associated generator transformer for III 60-MW turbo-generator. Documents from the Board's consulting engineers, Kennedy and Donkin, 64 Royal Exchange, Manchester, 2. Deposit £5 5s. (cheques payable to the Board). Tenders by Feb. 8.

GAS AND WATER SUPPLY

Argyllshire.—Ardrihaig-Lochgilphead water supply, for C.C. The works comprise: Section 1—alterations to intake, laying of 726 lin. yd. of 9in. asbestos-cement main from intake to filter house, laying of 150 lin. yd. 6in. asbestos-cement main around filter house, alterations to filter house, construction of 124,000-gallon reinforced concrete storage tank, and the roofing of existing storage tank; section 2—the laying of 2,980 lin. yd. of 7in. diameter asbestos-cement main from Ardrihaig to Lochgilphead and the laying of 315 lin. yd. of 7in. cast-iron main, 165 lin. yd. of 6in. cast-iron main, 240 lin. yd. of 3in. asbestos-cement main and 520 lin. yd. of 3in. cast-iron main in and around the burgh. Applications to the County Engineer, Lochgilphead, Argyll, by Jan. 30.

Cardiff.—Construction of a precast concrete roof to Rhiwbina service reservoir, capacity 1,500,000 gallons, for City Council. The work consists of the fabrication and erection of approximately 2,400 sq. yd. of precast concrete roof with supporting beams and columns, together with roof finishes, etc. Documents from the Water Engineer, City Hall, Cardiff. Deposit £2 2s. Tenders by Feb. 9.

Ennerdale, Cumb.—Laying water mains at the following, for R.D.C.: (a) Egremont—laying of approx. 2,000 yd. of 6in. spun-iron water

main with mechanical joints, complete with specials; (b) Cleator Moor—laying of approx. 400 yd. of 3in. spun-iron water main with mechanical joints, complete with specials. Documents from the Engineer, Council Chambers, Cleator. Tenders by Feb. 4.

Exeter.—Construction of a reservoir having a capacity of 5,500,000 gallons, for City Council. The walls are to be of mass concrete with earth mounding, and the roof, division wall, valve house, etc., of reinforced concrete, subsidiary work includes access road, fencing, pipe laying, etc. Documents from John Brierley, city engineer and surveyor, Municipal Offices, 7 Southernhay West, Exeter. Deposit £2 2s. Tenders by Feb. 15.

Horncastle, Lincs.—Laying of approx. 1,350 yd. of 3in. asbestos-cement water main at Sturton, near Horncastle, for R.D.C. Documents from N. G. Coldham, clerk of the Council, Council Offices, 6 Conging Street, Horncastle. Tenders by Jan. 30.

***North Wales.**—Laying about seven miles of raw water, trunk and branch mains (contract 2), for Llyn Conwy Water Board. Deposit £5 5s. Tenders by Feb. 29.

***Rushden, Northants.**—Laying about two miles of 9in. and 12in. dia. spun-iron pipes, for Higham Ferrers and Rushden Water Board. Deposit £5. Tenders by Feb. 8.

Towcester, Northants.—Construction of approximately 1½ miles of 3in. diameter asbestos-cement mains and ancillary works, for R.D.C. Documents from Howard Humphreys and Sons, consulting engineers, Victoria Station House, Victoria Street, Westminster, S.W.1. Deposit £3 3s., cheques payable to R.D.C. Plans also seen at the Council Offices, Town Hall, Towcester. Tenders by Feb. 5.

***Walsingham, Norfolk.**—Laying cast-iron mains, etc., at Bingham, Warham, Holkham and Wells-next-the-Sea (contract 18), for R.D.C. Deposit £3 3s. Tenders by Feb. 15.

***Watford, Herts.**—Annual mainlaying contract, for B.C. Tenders by Feb. 1.

Williton, Som.—Clatworthy water supply scheme, contract 11, water main from Willett to Bilbrook, for R.D.C. The following constructional work: Supply and laying of 3,004 yd. of class C asbestos-cement 8in. water main; 5,951 yd. of class C asbestos-cement 7in. water main; 1,195 yd. of class D asbestos-cement 7in. water main; 1,327 yd. of class C asbestos-cement 6in. water main; 1,563 yd. of class C asbestos-cement 5in. water main; 493 yd. of class D asbestos-cement 5in. water main; 622 yd. of class C asbestos-cement 4in. water main; 447 yd. of class C asbestos-cement 3in. water main; 177 yd. of class D asbestos-cement 3in. water main; 259 yd. of class C asbestos-cement 6in. surface water drain; sluice valves, washouts, air valves, hydrants, etc., ancillary works. Documents from S. E. Balch, engineer and surveyor, Council Offices, Fore Street, Williton, Taunton. Deposit £3 3s. cheque. Tenders by Feb. 22.

HEATING AND VENTILATING

Bromsgrove, Worcs.—Installation of domestic hot water supply from fireback units, new sinks, washbasins at the following, for U.D.C.: Bromsgrove, contract A section 1, 72 houses—Churchfields Close; contract A section 2, four houses—Crabtree Lane; Rubery, contract B, 32 houses—Beacon Close. Documents from the Housing Manager, The Council House, Bromsgrove. Tenders by Feb. 2.

Down.—Low pressure hot water heating, hot and cold water service installations in R.U.C. Station, Castlwellan, for Ministry of Finance. Documents from Room 103, Law Courts Building, Belfast, 1. Tenders by Feb. 2.

Down.—Heating, plumbing and lighting installations in Monevrea (New) Primary School, for County Education Committee. Documents from William J. Ogle, consulting engineer, 63 Main Street, Bangor. Deposit £3 3s. each contract. Tenders by Jan. 28.

Dumbarton.—Conversion to oil burning of one Cornish boiler, including the complete installation on site and all ancillary work and the provision of an oil storage tank, for Central Hospital Committee. Applications to S. O. McKellar, secretary, The Central Hospital, Dumbarton, by Feb. 15.

Hull.—Low pressure hot water heating and domestic hot water installation in the new kitchen and dining room at Villa Place School, for City Council. Documents from Andrew Rankine, Guildhall, Kingston upon Hull. Deposit £2, payable to City Treasurer. Tenders by Jan. 27.

Maldon, Essex.—Provision and installation of hot water by cistern type electric heaters to the following houses, for R.D.C.: 24-82 Mell Road, Tollesbury (30 houses); 4, 6, 8, 10, 12, 16, 18, 20, 22, 24, 26, 28, 30 and 32 Cripplegate, Southminster (14 houses); 1-43 Queenborough Road, Southminster (22 houses). Tenders may be submitted in respect of the

whole or any one block of the above houses. Documents from G. L. Turner, housing officer, Council Offices, Wantz Road, Maldon. Tenders by Jan. 31.

Peterhead, Aberdeens.—Removal of the existing steam boiler at the Corporation Baths, for B.C., and the replacement by an oil-fired steam boiler and ancillary works. Documents from the Burgh Surveyor, Arbutnot House, Peterhead.

HOUSING SCHEMES

Aberdeenshire.—Following, for C.C.: Four old people's cottages in brick construction at Stoneywood; four houses in brick construction at Old Rayne. Applications in writing to the County Architect's Department, 55 Queen's Road, Aberdeen, by Jan. 26. Tenders by Feb. 10.

Arbroath, Angus.—Seaton Road housing scheme, third development, for B.C.: 75 houses in 12 blocks, 1, 2 and 3 storeys high. Applications in writing to W. R. Samson, burgh architect, 32 Hill Street, Arbroath, by Jan. 30. Deposit £5 5s.

Barrowford, Lancs.—Erection of 24 two-storey flats in four blocks together with paving and other site works. Documents from the Engineer and Surveyor, Council Offices, Halstead Lane, Barrowford. Deposit £2 2s. Tenders by March 4.

Belfast.—Twelve type HA terrace houses at Glasgow Street, for City Council. Documents from the Housing Architect, Townsend House, 97 Townsend Street, Belfast, 13. Deposit £5, cheques payable to Corporation. Tenders by Jan. 26.

Blyth, Suffolk.—Four maisonnettes with siteworks at College Road, Framlingham, for R.D.C. Documents from the Housing Manager, Council Offices, Rendham Road, Saxmundham. Deposit £2 2s. Tenders by Feb. 4.

Bourne, Lincs.—Four bungalows at Alexandra Terrace, for U.D.C. Documents from the Surveyor, Council Offices, Bourne. Deposit £1 1s.

Bromsgrove, Worcs.—Thirteen bungalows on Chardford estate No. 16, together with drains, paths, retaining walls and other ancillary works, for U.D.C. Applications in writing to the Engineer and Surveyor, Council House, Bromsgrove, by Jan. 27. Deposit £3 3s. Plans also seen at the offices of Crump and Aplin, quantity surveyors, National Provincial Bank Chambers, High Street, Bromsgrove. Tenders by Feb. 27.

Flint.—Twenty-four Unity traditional dwellings, Walwen, Bagillt, together with service road and all necessary site works in connection therewith, for B.C. Documents from Engineer and Surveyor, Municipal Offices, Earl Street, Flint. Deposit £3 3s. Tenders by Feb. 8.

Glastonbury, Som.—Twenty-one dwellings, 18 garages and five stores on the Windmill Hill estate, for B.C. Documents from G. C. Beech and Partners, chartered architects, Deanery Offices, Wells. Deposit £2 2s. Tenders by Feb. 22.

Gosforth, Northumb.—Thirty dwellings at Caxlogde redevelopment area, for U.D.C., comprising 24 two-bedroom houses in flats and six two-storey terrace houses. Documents from the Engineer and Surveyor, Council Offices, Gosforth. Tenders by Feb. 3.

Huddersfield, Yorks.—Three caretakers' houses (two at Bradley Bar and one at Rawthorpe), for B.C. Documents from the Architect, High Street Buildings, Huddersfield. Deposit £1 1s. Tenders by Jan. 27.

Hull.—One hundred and thirty-eight dwellings and 77 garages, Nornabell Street, for City Council. Documents from Andrew Rankine, city architect, Guildhall, Kingston-upon-Hull. Deposit £2, payable to City Treasurer. Tenders by Jan. 29.

Huntingdon.—Six bungalows at Great Gidding, for R.D.C. Deposit £2 2s. Tenders by Feb. 24.

Jarrow, Dur.—Housing scheme 102, 84 dwellings, for B.C. Documents from the Borough Engineer, Town Hall, Jarrow. Deposit £2 2s. Tenders by Feb. 16.

Middlesbrough.—Thirty-one dwellings at Pallister Park, for B.C. Deposit £2 2s. Tenders by Feb. 8.

Northfleet, Kent.—Twenty houses (traditional brick construction) on Painters Ash estate, for U.D.C. Documents from the Surveyor, Town Hall, Northfleet. Deposit £2 2s. Tenders by Feb. 12.

Pershore, Worcs.—Four dwellings at Pirton, for R.D.C. Documents from W. G. Trapp, clerk of the Council, Council Offices, High Street, Pershore, by Jan. 25. Deposit £2 2s. Drawings seen at the Offices of the Council's architects, Pemberton and Bateman, 21 Vine Street, Evesham. Tenders by Feb. 22.

Risca, Mon.—Thirty-two three-bedroom houses and 28 flats at Channel View site, Pontymister, for U.D.C. Documents from the Engineer and Surveyor, Council Offices, Risca. Deposit £3 3s. Tenders by Feb. 8.

Ross and Cromarty.—Following works, for C.C.: (1) Two two-apartment, four three-apartment and two five apartment houses at Kyle of Lochalsh (eight houses); (2) 11 three-apartment and six four-apartment houses at Maryburgh (17 houses). The trades involved in all the contracts are (a) site preparation, (b) brick, etc., (c) carpenter and joiner, (d) slater and roughcast, (e) plumber, (f) plaster, (g) electrical, (h) painter and glazier. Applications, by letter, stating clearly the contract(s) and trade(s) for which schedules are required, to R. Armour and Partners, quantity surveyors, 375 Union Street, Aberdeen, by Jan. 30.

Stepney.—Two connected blocks each of 10 maisonnettes four storeys high, for B.C. Documents from the Borough Engineer and Surveyor, Municipal Offices, 227/233 Commercial Road, E.1. Deposit £10 10s. Tenders by Feb. 8.

Stockport, Ches.—Sixty-seven dwellings and 11 garages, Brinnington housing, contract 48b, for B.C. Applications to Borough Architect, Town Hall, Stockport, by Jan. 28.

Sutherland.—Sole tender or separate tender basis for erection of eight houses at Sibell Road, Golspie, for C.C., comprising builder and roughcast, carpenter, joiner and glazier, slater, plumber and drainage, plaster, painter and electrical works. Submit names to E. W. Brannen, county architect, Dornoch, by Jan. 30.

Whitchurch, Salop.—Detached house with attached outbuildings complete with all the necessary site works at the sewage works, Rising Sun, for U.D.C. Documents from Engineer and Surveyor, Pauls Moss, Dodington, Whitchurch. Deposit £2 2s., cheques payable to U.D.C. Tenders by Feb. 6.

MATERIALS AND SUPPLIES

Aberdare, Glam.—Supply of 2,000 round dustbins, for U.D.C. Documents from the Engineer and Surveyor, Vestry Hall, Aberdare. Tenders by Feb. 5.

Accrington, Lancs.—Following for the year ending March 31, 1961, for B.C.: Bitumen macadam; fine cold asphalt; tars and bitumen emulsions; manhole and gully castings; cement; concrete flags, kerbs and edgings; coarse aggregate for concrete; fine aggregate and sand; roadstone chippings; salt-glazed ware pipes, etc.; chain link fencing (plastic covered); chestnut fencing. Documents from B. Hartley, borough engineer and surveyor, 44 Union Street, Accrington. Tenders by Jan. 30.

Alfreton, Derbys.—Following for year ending March 31, 1961, for U.D.C.: Tarred macadam; bituminous topping; cold asphalt; limestone rejects, limestone crusher run; ready mixed concrete; crushed granite; washed sand; road tar and bitumen; British Portland cement; precast concrete kerbs; precast concrete paving slabs; grit sand. Documents from the Surveyor, Council Offices, Cornhill House, Nottingham Road, Alfreton. Tenders by Feb. 6.

Altrincham, Ches.—Supply of materials, for B.C. Tenders by Jan. 29.

Ashington, Northumb.—Following for 12 months commencing April 1, 1960, for U.D.C.: Whinstone penning; whinstone chippings; tarred whinstone; concrete flags; concrete kerb and edging; sand; Portland cement (British Standard specification); tar and tar compounds; cold bituminous emulsion, cast-iron street gullies, manhole covers and frames; motor haulage; paint; paint brushes, tyres; motor fuel (petrol, derv and gas oil). Documents from the Surveyor to the Council, Town Hall, Ashington, Northumberland. Tenders by Feb. 13.

Barking, Essex.—Following for the period April 1, 1960-March 31, 1961, except where otherwise stated, for B.C.: Ashes; ballast, sand and shingle; lime and cements; ready-mixed concrete and paving mortar; salt-glazed ware; paving slabs, kerb and edging (artificial stone); cold asphalt, carpeting material; cold bitumen emulsion; cutback bitumen (spraying grade); granite chippings, hot rolled asphalt (patching); tar/bitumen compound, sprayed; tarred and bituminous macadams; dustbins; vehicle batteries; cleaning materials, including toilet paper and brooms and brushes; petrol, paraffin, gas, diesel, vaporising oils; fuel oil (35 secs. and 200 secs.); uniforms and protective clothing; blacksmiths' work (tool sharpening); motor haulage; typewriter servicing; thermoplastic white lines; tyres and tubes; Ideal Britannia boilers and spare parts; window cleaning (for a period of three years). Documents from the Borough Engineer and Surveyor, Town Hall, Barking. Tenders by Jan. 29.

Bermondsey.—Following for the period of 12 months commencing April 1, 1960, for B.C.: Asphalt reinstatement of trenches; ballast sand and shingle, etc.; bituminous slag macadam; bituminous emulsion; bookbinding;

boots; brooms and brushes; clearance of rubbish; coal and coke; cold asphalt; drymix mortar; electric lamps; newspaper and periodicals; pails, dustbins, etc.; patent paving; piano tuning; sharpening masons' tools; uniforms; window cleaning. Documents from the Town Clerk, Municipal Offices, Spa Road, London, S.E.16. Tenders by Jan. 30.

Bolton, Lancs.—Supply of materials, for B.C. Tenders by Feb. 1.

Bournemouth.—Supply and delivery of lavatory basins, for B.C. Tenders by Feb. 13.

Brentwood, Essex.—Following during the year ending March 31, 1961, for U.D.C.: (1) Road tar; (2) tarmacadam, bituminous macadam, bituminous concrete; (3) sand, pit sand, ballast and shingle; (4) precast concrete flagging and kerb; (5) clinker, ashes, hardcore and breeze; (6) cement; (7) glazed ware pipes; (8) granite chippings; (9) cold emulsion and cold asphalt; (10) sharpening of tools; (11) mechanical haulage and plant; (12) rebripping of mechanical sweeper brushes; (13) precast concrete pipes and manholes; (14) plastic white lines; (15) petrol, diesel fuel oil, gas oil, paraffin, lubricating oil; (16) turf; (17) tools for highway work; (18) oilmen's sundries; (19) brushes; (20) protective clothing; (21) hydrated lime; (22) electric light bulbs; (24) split chestnut fencing, oak fencing posts and chestnut stakes; (25) chain link fencing; (26) precast concrete fencing posts; (27) dustbins; (28) rainwater goods; (29) sanitary goods and plumbers' materials; (30) ironmongery and castings; (31) builders' sundries; (32) painters' sundries; (40) tyres and tubes; (41) salt for snow clearing; (43) coke. Documents for tenders numbered (1) to (22) inclusive, and (40), (41) and (43) can be obtained from the Engineer and Surveyor, and tenders numbered (24) to (32) inclusive from the Housing Manager, at the Council Offices, Brentwood. Tenders by Feb. 5.

Bromley, Kent.—Supply of the following for the year ending March 31, 1961, for B.C.: (1) Tarmacadam; (2) bitumen macadam and precast chippings; (3) fine cold asphalt; (4) granite chippings; (5) artificial stone paving; (6) cement; (7) concrete aggregate, sand, ballast and lime-sand mortar; (8) manhole covers and frames, gully grates and frames; (9) mechanical sweeper brooms; (10) haulage and clinker; (11) solid fuel. Documents from the Borough Engineer, Municipal Buildings, Bromley. Tenders by Jan. 29.

Buckinghamshire.—Supply of any of the following chemicals required for the treatment of a public water supply in the year ending March 31, 1961, for Bucks. Water Board: Hydrated lime; quicklime; pure dried vacuum salt; chlorine. Documents from R. Pownall, engineer and manager, the Bucks. Water Board, Byron Road, Aylesbury. Tenders by Feb. 5.

Burnley, Lancs.—Following during the year ending March 31, 1961: Bitumen macadam earthenware sewerage pipes; limestone and granite chippings; concrete flags; hydrated lime; kerb and channel; natural stone flags; Portland cement; sand. Documents from Engineer and Surveyor, 22-24 Nicholas Street, Burnley. Tenders by Jan. 30.

Caerphilly Glam.—Following for the year ending March 31, 1961, for U.D.C.: (1) Bass brooms; (2) bricks; (3) cement; (4) sand; (5) limestone aggregate; (6) pennant stone aggregate; (7) bituminous macadam; (8) tarred macadam; (9) drainage ironwork; (10) glazed stone-ware pipes; (11) hire of motor lorries; (12) surface dressing of roads; (13) sharpening of tools; (14) scavenging—Cwmelidg; (15) electric lamps; (16) electrical equipment (road lighting); (17) paints; (18) painting by contract; (19) rubber knee boots; (20) armoured gloves; (21) overalls; (22) waterproof clothing; (23) overcoats; (24) petrol; (25) coal; (26) derv oil, engine and gear oils and greases; (27) tyres, tubes and flaps, remoulding; (28) tyre mileage contract; (29) drivers', conductors' and conductresses' uniform clothing; (30) boiler suits. Documents from the Engineer and Surveyor, Council Offices, Caerphilly, in respect of items 1-25 inclusive and from the Omnibus Manager, Omnibus Garage, Mill Road, Caerphilly, in respect of items 26-30. Tenders by Feb. 1.

Cambridgeshire.—Supply of materials, for C.C. Tenders by Jan. 28.

Cardiganshire.—Supply of petrol in bulk loads of 400 gallons to four tanks, two in Aberystwyth, one at Tregaron and one at Penrhos, Llandysul, for the period of one year from April 1, 1960, for C.C. Tenders to J. E. R. Carson, clerk of the County Council, Swyddfa'r Sir, Aberystwyth, by Feb. 6.

Chadderton, Lancs.—Supply of materials for the year ending March 31, 1961, for U.D.C. Tenders by Feb. 1.

Chelmsford, Essex.—Following for the year ending March 31, 1961, for B.C.: (i) Precast concrete flags and kerbs; (ii) bitumen macadam, tarred macadam and fine cold asphalt; (iii) scavenging brooms and brooms for Lewin road sweeper; (iv) gravel and sand; (v) motor

fuel; (vi) ready mixed concrete; (vii) precast granite chippings; (viii) supply and spreading of tar. Documents from the Engineer and Surveyor, Municipal Offices, Chelmsford. Tenders by Feb. 5.

Cuckfield, Sussex.—Following, for U.D.C.: (1) Supply of petroleum spirit, diesel and gas oil; (2) surface dressing during 12 months ending March 31, 1961. Documents from the Surveyor, Council Offices, Oaklands, Haywards Heath. Tenders by Jan. 30.

Cumberland.—Following for the year commencing April 1, 1960, for C.C.: (1) Tarred and bitumen macadam; (2) dry granite or whinstone chippings; (3) graded surfacing and foundation stone (granite, whinstone, limestone), dry and wet mix; (4) hired rollers; (5) bricks; (6) tools; (7) paint; (8) petrol and oils; (9) stoneware pipes; (10) gully gratings and frames; (11) explosives; (12) cement; (13) refined tar for hot application only; (14) bitumen and proprietary compounds for hot application only. Documents from the County Surveyor, Citadel Chambers, Carlisle. Tenders by Feb. 3.

East Sussex.—Supply of materials for the year 1960-61, as follows, for C.C.: (1) Coated and uncoated stone; (2) premixed waterbound macadam, asphaltic concrete, beach, gravel and sand; (3) refined tar and cold emulsion; (4) hire of haulage vehicles; (6) application of white lines; (7) fixing road studs; (8) heating and planing; (9) application of surfacing materials by Barber-Greene; (10) application of surface dressing; (13) salt and grass seed; (14) cast-iron gully covers, gratings and frames, and g.s.s. pipes; (15) concrete pipes, kerbs and paving. Documents from County Surveyor, County Hall, Lewes. Tenders by Feb. 1.

East Sussex.—Following for the year 1960-61, for C.C.: (1) Coated and uncoated stone; (2) premixed waterbound macadam, asphaltic concrete, beach, gravel and sand; (3) refined tar and cold emulsion; (4) hire of haulage vehicles; (6) application of white lines; (7) fixing road studs; (8) heating and planing; (9) application of surfacing materials by Barber-Greene; (10) application of surface dressing; (13) salt and grass seed; (14) cast-iron gully covers, gratings and frames and G.S.S. pipes; (15) concrete pipes, kerbs and paving. Documents from the County Surveyor, County Hall, Lewes. Tenders by Feb. 1.

Enfield, Middx.—Supply of materials, for B.C. Tenders by Feb. 8.

Fairworth, Lancs.—Following for year ending March 31, 1961, for U.D.C.: (1) Precast concrete flags and kerbs; (2) salt glazed ware pipes; (3) scavengers' brooms; (4) cast manhole covers and frames; (5) cement (Portland); (6) sand; (7) broken stone; (9) bituminous spraying (by pressure tank); (10) bitumen macadam; (11) granite chippings; (12) salt (for snow removal); (13) concrete street gullies; (14) cast-iron gully grids; (17) pitching stone; (18) cold asphalt; (19) dustbins (galvanised mild-steel). Documents from the Engineer and Surveyor, Town Hall, Fairworth, near Manchester. Tenders by Jan. 30.

Farnworth, Lancs.—Supply of materials, for B.C. Tenders by Jan. 30.

Felixstowe, Suffolk.—Following supplies and services for the year ending March 31, 1961, for U.D.C.: (1) Cement; (2) stoneware pipes; (3) hire of motor lorries; (4) hire of road rollers; (5) washed and graded pitstone for surface dressing; (6) sand; (7) supply, delivery and application of cold bituminous emulsion for surface dressing; (8) tarmacadam and fine cold asphalt; (9) petrol. Documents from A. Hugh Pavitt, engineer and surveyor, Town Hall, Felixstowe. Tenders by Feb. 4.

Friern Barnet, Middx.—Supply and delivery of the following materials for 12 months commencing April 1, 1960, for U.D.C.: Sand; ballast; clinker; bitumen; tar; tarmacadam; bitumen macadam; cold asphalt; paving slabs; Lewin road sweeper brush rebrittling; and for the re-laying of artificial stone paving and kerbing and the construction of car crossings, approx. £4,000 per annum. Documents from the Engineer and Surveyor, Town Hall, London, N.11. Tenders by Feb. 3.

Glamorgan.—Following in respect of county roads in the northern, southern, eastern and western divisions of the county for the year commencing April 1, 1960, and ending March 31, 1961, for C.C.: Supply and delivery of: (1) uncoated roadstone, concrete aggregate, sand and clinker, ready-mixed concrete, coated macadam, hot rolled asphalt; (2) common and engineering bricks; (3) manhole covers and frames, gully gratings and frames; (4) emulsions; (5) precast concrete kerbs, edgings, flags and concrete bricks, blocks and rock-faced blocks; (6) salt-glazed pipes and agricultural pipes; (7) concrete pipes; (8) cast (spun) iron pipes; (9) plastic white line material; (10) ground rock salt; (11) galvanised fencing wire, chain link, sheep netting, etc.; (12) Portland cement. The execution of the following works: (13) heating and planing;

(14) surface dressing. Documents from L. John Powell, county surveyor, Glamorgan County Hall, Cardiff. Tenders by Jan. 27.

Goole, Yorks.—Supply and delivery of materials for the year ending March 31, 1961, for R.D.C. Tenders by Feb. 6.

Halifax, Yorks.—Supply of following, for B.C.: (1) Stone kerb, edging and flags; (2) granite and limestone chippings; (3) cement; (4) broken stone, sand and gravel; (5) earthenware pipes and gullies; (7) precast concrete flags, kerb and edging; (8) tar and bituminous macadam; (10) tar and bituminous spraying compounds; (13) castings; (14) bricks; (15) fine cold asphalt; (16) ready-mixed concrete. Documents from the Borough Engineer, Crossley Street, Halifax. Tenders by Feb. 5.

Harrogate, Yorks.—Supply and delivery of the following for the year ending March 31, 1961, for B.C.: (1) Cement; (2) dry aggregates; (3) sand and gravel; (4) precast concrete kerb and flags; (5) tarmacadam (supply only); (5a) dense tar (supply and machine spreading); (8) dense tar (supply and machine spreading); (7a) macadam (supply and machine spreading); (7b) dense tar (supply and machine spreading); (8) fine cold asphalt (supply only); (9) fine cold asphalt (supply and machine spreading); (10) tar for surface dressing supplied and sprayed by pressure tankers; (11) bituminous emulsions; (12) brooms; (13) electric lamps; (14) petrol, derv, gas oil and paraffin; (15) overalls; (16) toilet rolls; (17) coal and coke. Documents from C. E. Fellows, borough engineer, Municipal Offices, Harrogate. Tenders by Feb. 12.

Hebburn, Dur.—Following for 12 months from April 1, 1960, for U.D.C. Roadstone, tarmacadam and granite chippings; tar and bituminous road spraying compound; manhole covers, gullies, domestic hot water boilers, etc.; concrete flagging and kerbing; Portland cement; stoneware drainpipes; brushes, shovels, etc.; surface spraying; building materials; hardware and sanitary fittings; lubricating oils and grease; coke and coal; paint; glass. Documents from the Engineer and Surveyor, Tenders by Feb. 9.

Hemel Hempstead, Herts.—Following for the year 1960-61, for B.C.: (1) Heavy castings—manhole covers, gullies, etc.; (2) light castings—hydrant covers, valve covers, etc.; (3) stop-cocks and ferrules; (4) cast-iron pipes and specials; (5) sluice valves; (6) copper tubes and fittings; (7) paving slabs and kerbs; (8) drainage, kerbing, footpath and other roadwork; (9) asphaltic bitumen road emulsion for cold application; (10) surface dressing of roads, footpaths and verges; (11) granite chippings and granite dust; (12) tarmacadam bitumen and cold fine asphalt; (13) sand, ballast, shingle, grit and hoggin; (14) roadman's tools; (15) tyres; (16) stationery; (17) gas mantles; (18) gas lanterns (public lighting); (19) repairs to time switches; (20) cleaning materials; (21) electric lamps; (22) dustbins and refuse skips; (23) protective clothing; (24) building materials; (25) plastic road marking lines; (26) excavating for and laying water mains, etc.; (27) motor fuels; (28) baling wire; (29) weedkillers; (31) concrete pipes, manhole parts, gully pots, etc.; (32) glazed stoneware pipes and fittings; (39) ready mixed concrete; (40) ready mixed mortar for paving. Documents from A. H. Turner, borough engineer, High Street, Hemel Hempstead. Tenders by Feb. 1.

Hindley, Lancs.—Supply of the undermentioned materials for the year ending March 31, 1961, for U.D.C.: (1) Tarmacadam and chippings; (2) pitch, creosote oil and bituminous compounds; (3) stone kerbs, concrete kerbs and flags; (4) broken stone and granite chippings, etc.; (5) granite setts; (6) Portland cement; (7) ironmongery, tools, castings, etc.; (8) sanitary pipes; (9) ashbins; (10) disinfectants; (11) sand. Documents from T. G. Grime, engineer and surveyor to the Council, Town Hall, Hindley, on receipt of a stamped addressed envelope. Tenders by Jan. 30.

Isle of Man.—Following for one year commencing April 1, 1960, for Highway and Transport Board. Tools, agricultural drain tiles, danger lamps, goggles, paint brushes, stoneware pipes, boiler suits, overalls, cleaning rags, cotton waste, sandbags, rubber boots, wheelbarrows and paint. Documents from the Surveyor General, 21A Athol Street, Douglas, I. of M. Tenders by Feb. 15.

Keighley, Yorks.—Supply of the following materials during the year ending March 31, 1961, for B.C.: (1) Pitch and creosote oil; (2) ironmongery; (3) ironwork; (4) glazed ware pipes; (5) Portland cement; (6) granite chippings and dry and bituminous granite; (7) dry limestone; (8) tarred limestone; (9) bricks. Documents from R. Courtenay Gibson, borough engineer, College Street, Keighley. Tenders by Feb. 1.

Leighton Buzzard, Beds.—Supply of the following materials for the year ending March 31, 1961, for U.D.C.: (1) Granite chippings;

(2) refined tar and bituminous emulsion; (3) tarred and bituminous macadam and cold asphalt; (4) precast concrete kerbs, setts and paving slabs; (5) ballast, sand and gravel. Documents from the Engineer and Surveyor, Council Offices, North Street, Leighton Buzzard. Tenders by Feb. 3.

Littleborough, Lancs.—Supply of the following materials during the year ending March 31, 1961, for U.D.C.: Roadstone chippings and wet-mix; concreting aggregates; coated macadam; flags, kerbs and setts (natural stone); concrete flags and kerbs; earthenware pipes; tar and bitumen compounds; scavenging brushes; road grids and manhole covers; gas coke; salt. Documents from E. N. Crabtree, engineer and surveyor, Council Offices, Littleborough. Tenders by Feb. 13.

London.—Supply of materials, for Metropolitan Water Board. Tenders by Feb. 4.

Loughborough, Leics.—Following during the year ending March 31, 1961, for B.C.: (a) Concrete flags and kerbs; (b) bituminous macadam, etc.; (c) granite; (d) Portland cement. Documents from Arthur Usher, town clerk, Southfields, Loughborough. Tenders by Feb. 5.

Lowestoft, Suffolk.—Supply of stores and materials for the year ending March 31, 1961, for B.C. Tenders by Feb. 11.

Marple, Ches.—Supply of following, for U.D.C.: (1) Granite chippings; (2) all-in concrete aggregate, washed building sand, quarry and natural sand, sand for road gritting purposes; (3) bituminous macadam, granite and limestone aggregate; (4) cold bituminous emulsions for surface dressing; (5) Portland cement; (6) precast granite aggregate concrete kerb channels and flags; (7) ashes; (8) hire of road rollers; (9) special cast-iron pipes; (10) asbestos-cement pipes; (11) petroleum and diesel oil; (12) tyres; (13) coke. Documents from the Surveyor, Council Offices, Marple. Tenders by Feb. 5.

Newcastle-under-Lyme, Staffs.—Following for the year ending March 31, 1961, for B.C.: (1) Precast concrete flags; (2) concrete kerb and channel; (3) granite and limestone chippings and broken limestone; (4) tarred and bituminous macadam and cold asphalt; (5) washed and crushed gravel; (6) refined tar and hot compounds; (7) British standard salt glazeware pipes, fittings and street gullies; (8) castings. Documents from the Borough Surveyor, Lancaster Building, Newcastle. Tenders by Feb. 2.

Northwich, Ches.—Supply of painting materials, for U.D.C. Tenders by Feb. 13.

Northwich, Ches.—Supply and delivery of the following materials during the year ending March 31, 1961, for U.D.C.: Tarmacadam; bitumen macadam; concrete flags; concrete kerbs; crushed dry slag; granite chippings; crushed gravel; grit sand; wetmix; and for the purchase of scrap metal. Documents from the Engineer and Surveyor, The Council House, Church Road, Northwich. Tenders by Jan. 30.

Newbury, Berks.—Supply of the following materials and services for the 12 months commencing April 1, 1960, for B.C.: (1) Tarmacadam; (2) shingle for tarring and concrete ballast; (3) cleaning windows of public buildings; (4) lorry hire; (5) coke and coal. Documents from the Borough Surveyor, Municipal Buildings, Newbury. Tenders by Feb. 2.

Northumberland.—Following during the year April 1, 1960, to March 31, 1961, for C.C.: (1) Dry macadam; (2) tarred macadam and bitumen macadam; (3) refined tar, cutback bitumen and cold bitumen emulsion; (4) gravel chippings and sand; (5) spades, shovels, bass brooms, etc.; (6) Portland cement; (7) road roller hire; (8) supply and laying of plastic white line material; (9) lubricating oils and greases; (10) adhesion agents for surface dressing; (11) haulage of roadstone from Harecrag Quarry, Alnwick. Documents from the County Surveyor, Phoenix House, Queen Street, Newcastle upon Tyne, 1. Tenders by Feb. 13.

Rainford, Lancs.—Supply of broken stone, ashes, concrete flags and kerbs, tarmacadam, earthenware pipes, gullies, etc., for the year ending March 31, 1961, for U.D.C. Documents from the Surveyor, Council Offices, Rainford. Tenders by Feb. 13.

Ramsbottom, Lancs.—Supply of materials, for U.D.C. Tenders by Feb. 11.

Seaham, Dur.—Supply of the following materials for the year ending March 31, 1961, for U.D.C.: (1) Whinstone chippings; (2) gravel; (3) sand; (4) concrete flags and kerbs; (5) stoneware pipes; (6) bituminous and tarred macadam; (7) cold asphalt; (8) cast-iron goods; (9) precast concrete gullies; (10) tar spraying; (11) dustbins; (12) petrol; (13) cement; (14) hired haulage; (15) tyres. Documents from the Surveyor, Cliff House, Seaham. Tenders by Jan. 31.

Shoreditch.—(1) Asphalt paving works; (2) manufactured stone paving slabs; (3) ballast, shingle and sand; (4) Portland cement and lime; (5) removal of surplus earth, etc., to shoot; (6) sale of old broken paving; (7) brooms and brushes; (8) uniform and other clothing

and footwear; (9) soap, washing materials, etc. Documents for items (1)-(6) from the Engineer and Surveyor, Town Hall, Old Street, London, E.C.1, and for items (7)-(9) from the Cleansing and Transport Superintendent, 287 Kingsland Road, London, E.8. Tenders by Feb. 5.

***Shrewsbury, Salop.**—Supply of materials, for B.C. Tenders by Feb. 22.

***Slough, Bucks.**—Supply of materials, for B.C. Tenders by Feb. 1.

Solihull, War.—Following for the period of 12 months commencing April 1, 1960, for B.C.: (1) Bitumen macadam for wearing courses; (2) brooms, brushes and refilling mechanical sweeper brushes; (3) cast manhole covers, road gully gratings and frames; (4) cement and lime; (5) coal and coke; (6) concrete kerb, quadrants and concrete flags; (7) electrical fittings; (8) electric light bulbs; (9) fine cold asphalt; (10) ironmongery; (11) oils; (12) paint, varnishes and painters' sundries; (13) petrol and fuel oils; (14) plumbing and heating engineering materials; (15) salt glazed ware pipes and fittings; (16) sanitary fittings; (17) sand, gravel and chippings; (18) tarred slag, tarred granite and tarred limestone; (19) toilet requisites, cleaning materials and disinfectants; (20) tools. Documents from the Borough Surveyor, 90 Station Road, Solihull. Tenders by Feb. 10.

Southall, Middx.—Supply of the following, for the period April 1, 1960, to March 31, 1961, for B.C.: (a) Artificial stone paving; (b) ballast and shingle; (c) cleaning materials and drysaltery; (d) granite chippings; (e) wellington boots, overalls and gloves; (f) surface dressing compounds for roads; (g) tools and ironmongery; (h) tarmacadam and cold asphalt; (i) motor spirit, derv fuel oil, paraffin and white spirit. Documents from the Borough Engineer and Surveyor, Council Offices, Southall. Tenders by Feb. 2.

Staffordshire.—Following materials, etc., for the year ending March, 1961, for C.C.: (a) Bitumen and tarred macadam; (aii) cold asphalt; (aiii) dense tar surfacing; (b) timber fencing; (bi) wire fencing; (bii) continuous iron fencing; (c) dry slag and stone; (ci) clinker ashes; (d) gravel or other chippings; (e) tar, tar compounds, bitumens, cold emulsions and adhesion agent; (f) stone kerbs and setts; (g) concrete kerbs, flags, fence posts, etc.; (h) supplying and/or laying asphalt; (i) glazed stoneware pipes, concrete porous pipes and field drain pipes; (j) paint; (k) traffic signs; (l) tools, rubber boots, cotton waste, etc.; (liii) steel navy barrows; (liv) workmen's overalls; (lvii) gloves; (m) castings and road ironwork; (n) Portland cement; (o) bricks; (p) heating and planing road surfaces; (q) concrete tubes; (r) reflecting road studs (supply of); (ri) reflecting road studs (fixing); (t) refilling mechanical sweeper brushes; (u) weed killer and grass growth retarder; (v) ready mixed concrete; (w) motor haulage and tractor (daywork) hire; (wi) haulage from quarries; (wii) hire of excavators; (x) plant—(1) 5-ton diesel-engined lorries; (2) road gritting attachments for diesel lorries; (3) snow ploughs for use with diesel lorries; (4) snow ploughs for use with tractors; (5) towing equipment for diesel lorries; (6) 5cwt. motor vans; (7) 10cwt. motor vans; (8) 10-12cwt. petrol-engined light lorries; (9) tractors, diesel-engined; (10) mechanical sweeper; (11) concrete dumpers; (12) footpath rollers; (13) gully emptier; (14) mechanical loader; (15) water cart; (16) excavator; (17) tarsprayer; (18) vibrating rollers; (19) tractor (diesel) complete with loading and excavating equipment; (y) kerb laying by piecework; (yi) kerb laying or upstands, including foundations; (yii) footpath and drainage work; (z) laying plastic road lines and supplying material; (zi) laying pedestrian crossings in mastic asphalt; (zii) mowing and trimming roadside verges; (ziv) thorn quicks; (zv) drilling and blasting at Hemmingslow quarry; (zvi) coal and coke; (zvii) salt for snow clearance, etc. Documents from County Surveyor, County Buildings, Stafford. Tenders by Jan. 29.

***Stamford, Lincs.**—Supply of materials, for B.C. Tenders by Feb. 5.

Sutton and Cheam, Surrey.—Following for the year commencing April 1, 1960, for B.C.: (1) Sand, gravel and ballast; (2) precast concrete paving slabs; (3) precast concrete kerb; (4) bitumen macadam with slag or limestone aggregate; (5) cold asphalt, emulsion and pre-coated chippings; (6) tarmacadam with slag or limestone aggregate; (7) general ironmongery, brooms, brushes and chandlery. Documents from C. Needham, engineer and surveyor, Municipal Offices, Sutton. Tenders by Jan. 30.

***Wandsworth.**—Supply of litter bins, for B.C. Tenders by Feb. 10.

***Watford, Herts.**—Supply of salt, for Corporation Water Department. Tenders by Feb. 1.

West Bridgford, Notts.—Following for the year ending March 31, 1961, for U.D.C.: (1) Road stone; (2) road dressings; (3) tarred macadam; (4) brushes; (5) kerbs, channels and paving slabs; (6) gravel and sand; (7) protective clothing; (8) coal and coke. Documents

from R. Dewsbury, engineer and surveyor, The Hall, West Bridgford. Tenders by Feb. 8.

***Widnes, Lancs.**—Supply of materials, for B.C. Tenders by Feb. 11.

***Wimbledon, Surrey.**—Supply of materials, for B.C. Apply, in writing, by Jan. 28.

Worsley, Lancs.—Supply of the following for the period commencing on April 1, 1960, and ending on March 31, 1961, for U.D.C.: Bituminous road emulsion; bituminous macadam; sealing grit; fine cold asphalt; precast granite chippings; concrete aggregate; granite chippings; broken road stone; sand; precast concrete kerbs, channels, edging quadrants and flags; concrete products; Portland cement; salt glazed ware pipes; glazed stoneware street gullies; manhole covers and frames; gully gratings and frames; petroleum spirit; lubricating oil; diesel oil; derv oil; tractor vaporising oil; boiler fuel oil; tungsten filament electric lamps; sodium discharge lamps; decorating supplies. Documents from Robert E. Huband, clerk and solicitor, Town Hall, Walkden, near Manchester, on receipt of stamped addressed foolscap envelope. Tenders by Feb. 6.

Yeovil, Som.—Supply and delivery of materials and performance of the following services for a period of 12 months from April 1, 1960, for B.C.: Portland cement; sand; gravel; granite or hardstone chippings; concrete kerb and flagging; tarmacadam; bitumen macadam; cold asphalt; dustbins; fuel oil; smith's works; maintenance of clocks; coal and coke. Documents from A. Heal, borough engineer, Municipal Offices, Yeovil. Tenders by Feb. 6.

PLANT AND MECHANICAL TRANSPORT

Camborne and Redruth, Corn.—Supply of the following, for U.D.C.: (a) One diesel engined Bedford six-ton tipper; (b) one petrol engined Bedford three-ton chassis/cab, fitted with Spenborough 4 cu. yd. body and hydraulic tipping gear; and 750 x 16 10-ply tyres; (c) one Bedford 90in. wheelbase dropside truck with Walker body. Tenders should include for delivery, number plates, painting and lettering, and for calibration and stamping of vehicles (a) and (b). The bodies of vehicles (a) and (b) are to be fitted with one-eighth inch steel bottoms and 18g. steel lining to head, sides and tail; vehicle (c) is to have 18g. steel bottom and lining. The following vehicles which are to be taken in part exchange can be inspected by arrangement with the Council's Engineer and Surveyor: 1952 Bedford 4/5-ton tipper; 1949 Bedford 2/3-ton truck fitted with hydraulic tipping gear; 1949 Fordson 2/3-ton truck fitted with hydraulic tipping gear. Tenders to S. C. Wilson, clerk to the Council, Council Offices, Camborne, by Jan. 30.

Dartmouth, Devon.—Supply and delivery of one Karrier Bantam 7 cu. yd. capacity, all-steel, refuse collecting vehicle, for B.C. A condition of the tender is that an offer is to be made, in part exchange, for an existing Karrier refuse collecting vehicle. Documents from the Borough Engineer, 12 Victoria Road, Dartmouth. Tenders by Jan. 28.

Donegal, Eire.—Supply and delivery of the following, for C.C.: (a) Eight to 10-ton end-tipping diesel trucks for which 10 5-ton tipping lorries owned by the Council must be taken in part exchange; (b) one 10-ton end-tipping diesel truck having five-speed gearbox and two-speed rear axle; (c) one 30cwt. petrol van chassis with its integral pressed steel scuttle forward control, suitable for ambulance body. Documents from County Secretary, County House, Lifford, County Donegal. Tenders by Jan. 30.

Durham.—Supply of Massey Ferguson 711 potato harvester, for C.C. Documents from Principal, School of Agriculture, Houghall, Durham.

Heywood, Lancs.—Supply and delivery of a paper baling machine for use at the destructor works, for B.C. The machine must be electrically driven and designed to produce bales in the range of one to two cwt. Tenders, along with details of drive, output, etc., and endorsed "Paper Baling Machine" to W. R. Parker, town clerk, Municipal Building, Heywood, by Feb. 1. Inquiries should be addressed to W. H. Jewell, manager, Sewage and Destructor Works, Peel Lane, Heywood.

Lancaster.—Supply and installation of the following electrically driven centrifugal pumping plant for dealing with water abstracted from the river, for City Council: (1) Three low-lift pumps—two pumps working together to be capable of dealing with alternative flows of 3,050 g.p.m. and 4,500 g.p.m. each; (2) three high-lift pumps—two pumps working together to be capable of dealing with alternative flows of 2,778 g.p.m. and 4,167 g.p.m. each. Documents from City Engineer, Town Hall, Lancaster. Deposit £2. Tenders by Feb. 10.

Leeds.—Supply and installation of electric driven pumping equipment, duty 1,000 gallons per minute, manometric head 200ft., for City Council. Documents from the City Engi-

neer, Civic Hall, Leeds, 1. Deposit £2 2s. (cheques payable to Corporation). Tenders by Feb. 12.

Magherafelt, Londonderry.—Supply to the Council's yard the following vehicles, for R.D.C.: (1) Pick-up, engine capacity approx. 1½ litres; (2) van, carrying capacity approx. 10 cwt.; (3) Land-Rover, diesel engined long wheel base; (4) trailer, box type, carrying capacity of approx. 10/15 cwt. Documents from the Council Office, Magherafelt. Petrol engined Land-Rover, registered 1955, to be accepted in part exchange in above tenders. (Can be inspected by arrangement). Tenders by Jan. 28.

***Newbury, Berks.**—Supply of propeller pumps, for B.C. Tenders by Feb. 6.

Welwyn Garden City, Herts.—Supply of various gang and motor mowers manufactured by Ransomes Sims and Jefferies, for U.D.C. Documents from R. V. Scoffham, engineer and surveyor, Council Offices, Welwyn Garden City.

PLAYING FIELDS, PARKS, ETC.

Crewe, Ches.—Erection of a floral court in the Crewe Cemetery, contract 561, for B.C. Documents from Fred. Merrill, engineer and surveyor, Municipal Buildings, Crewe. Deposit £2 2s. Tenders by Feb. 5.

East Riding.—Provision of a playing pitch, playground, site works and fencing at Eastington C.E. School, for C.C. Applications to the County Architect, County Hall, Beverley. Deposit £2 (cheques payable to Treasurer). Tenders by Feb. 2.

Isle of Wight.—Improvements to a portion of the site (i.e., mainly turfing) at the Isle of Wight Technical College, Hunnyhill, Newport, I. of W., for C.C. Applications to the County Architect, County Hall, Newport, I. of W., by Jan. 22. Deposit £1 ls., payable to C.C. Tenders by Feb. 17.

Salford.—Extension of the playground at St. Ambrose's School, Liverpool Street, for City Council. Documents from the City Engineer and Surveyor's Department, Town Hall, Salford, 3. Tenders by Feb. 9.

Salford.—Construction of a new playground at the Ascension C.E. School, Duke Street, for City Council. Documents from the Engineer and Surveyor's Department, Town Hall, Salford, 3. Tenders by Feb. 9.

Twickenham, Middx.—Reconstruction of two existing tennis courts to non-attention courts, including underdrainage and chain link surround at Moormead Recreation Ground, for B.C. Documents from Borough Engineer, Municipal Offices, Twickenham. Deposit £1 ls. Tenders by Feb. 2.

West Riding.—Following, for C.C.: Grading and levelling grounds and erection of porch, at rear of Knottingley Chapel Street Infants' School, for Knottingley Child Welfare Centre, Chapel Street, Knottingley. Applications to County Architect, Bishopgarth, Westfield Road, Wakefield, by Jan. 25. Tenders by Feb. 8.

ROADS, BRIDGES AND SITE WORKS

***Alcester, War.**—Roadworks at Studley, for R.D.C. Apply by Jan. 29. Deposit £2 2s. Tenders by Feb. 17.

Antrim.—Following for C.C.: Construction of between 3½ and 4 miles of new 27ft. carriageway on the Belfast-Larne Road, between the new sections already completed at Ballynure and Houston's Corner. The works include the realignment of County and District roads at their junction with the Trunk Road. Documents from County Surveyor's Office, County Courthouse, Crumlin Road, Belfast. Deposit £10 ls. Tenders by Feb. 5.

Ayrshire.—Soil survey on the line of the Ayr-Prestwick By-pass Road (stage II, part 1), including boring, soil-testing, interpretation of all aspects of the survey and the submission of a comprehensive report with the test results, for C.C. Documents and a location plan from the County Surveyor, County Buildings, Ayr. Deposit £2. Tenders by Feb. 3.

Barrowford, Lancs.—Following works, for U.D.C.: Approx 750ft. 1in. pitched and macadam carriageways together with kerbs, footpaths, foul and surface water sewers. Documents from the Engineer and Surveyor, Council Offices, Halstead Lane, Barrowford. Deposit £2 2s. Tenders by March 4.

Beddington and Wallington, Surrey.—Making-up of 232ft. of the private street, Sandhills, for B.C., comprising the construction of approximately 570 sq. yd. carriageway with bitumen macadam surfacing, kerbing, artificial stone paving to footways, and grass verges. Documents from Borough Engineer and Surveyor, Town Hall, Wallington. Tenders by Feb. 8.

Bedworth, War.—Heating and planing of approximately 7,200 super. yd. tarmacadam in Newtown Road, Bedworth, for U.D.C. Documents from the Engineer and Surveyor, Council Offices, High Street, Bedworth, Nuneaton. Tenders by Jan. 30.

Bedworth, War.—Reconstruction of St. Giles Road, for U.D.C., consisting of improving approximately 200yd. in length, 465 lin. yd. of kerbing, drainage works, and surfacing. Documents from the Engineer and Surveyor, Council Offices, High Street, Bedworth, Nuneaton. Deposit £2 2s. Tenders by Jan. 30.

Brighton, Sussex.—Road completion works at Chorley Avenue, for B.C. Tenders by Feb. 2.

Bristol.—Holmes Hill Road, St. George Road widening, for City Council. Work includes approx. 1,150 sq. yd. of bitumen macadam carriageway including hardcore foundations, kerbing, channelling, gullies and connections and approx. 540 sq. yd. of asphalt footways. Documents from City Engineer and Planning Officer, Cabot House, Deanery Road, Bristol, 1. Tenders by Feb. 12.

Burgess Hill, Sussex.—List of contractors, for U.D.C. Tenders by Jan. 30.

Bushey, Herts.—Roads and sewers, section III, for U.D.C. Deposit £2 2s. Tenders by Feb. 5.

Caernarvonshire.—Bulk excavation for road widening, following approx. quantities, for C.C.: 3,000 cu. yd. near Llanrwst; 400 cu. yd. and 600 cu. yd. at two sites on A.5; 2,700 cu. yd. on A.497 near Pwllheli. Documents from County Surveyor, County Offices, Caernarvon. Deposit £2 2s. Tenders by Jan. 30.

Camberwell.—Roadworks A and B, for B.C. Tenders by Feb. 15.

Canterbury, Kent.—Site preparation and laying of a paved area to provide six tennis courts for the technical school, Barton Court, for City Council. Written applications to John L. Berbers, city architect, Municipal Buildings, Canterbury, by Jan. 29. Deposit £2 2s. Tenders by Feb. 15.

Chertsey, Surrey.—Construction of 1,350 sq. yd. carriageway, 2,150 sq. yd. access ways, 1,950 sq. yd. car park, 250 lin. yd. soil sewer and 450 lin. yd. underdrainage, together with site clearance, turfing, post and wire fencing, and other incidental works, at Heathervale Municipal Caravan Park, New Haw, for U.D.C. Documents from the Engineer and Surveyor, Council Offices, Guildford Street, Chertsey. Deposit £1 1s. Tenders by Feb. 10.

Cheshire.—Repair of two damaged sections of masonry parapet wall, total length about 60ft. on the Nine Arches bridge which crosses Woodhead reservoir, for C.C. Documents from C. G. Day, county surveyor, Backford Hall, near Chester. Tenders by Feb. 1.

Chester.—Plas Newton Lane improvement, contract 572, for City Council. Approx 1,100 lin. yd. of 24ft. carriageway, 20 13ft. footways, 2,100 lin. yd. of glazed stoneware foul and surface water sewer works from 9in. diameter to 12in. diameter. Documents from the City Engineer and Surveyor, 49 Northgate Street, Chester. Tenders by Feb. 6.

Colne Valley, Yorks.—Widening of Bank Gate, Slaithwaite, for U.D.C. Deposit £1 1s. Tenders by Jan. 28.

Cumberland.—Lilly Hall—Cockermouth-Thursby class I road, A.595, improvement at Speetgill, for C.C., comprising the widening and realignment of the existing carriageway from a point 150yd. east of the junction with the Penrith-Wigton class II road, B.5350, at Street, to a point 100yd. west of the junction with the Wigton-Brackenthwaite unclassified road, including the construction of new carriageway on embankment, for which 50,000 cu. yd. of imported fill material is required, the construction of a reinforced concrete box culvert 134ft. long, drainage, fencing and ancillary works. Documents from County Surveyor and Bridgemaster, Citadel Chambers, Carlisle. Deposit £5. Tenders by Feb. 6.

Cumberland.—Improvement at Speetgill on Lilly Hall-Cockermouth-Thursby class I road A.595, for C.C. Works comprise the widening and realignment of the existing carriageway from a point 150yd. east of the junction with the Penrith-Wigton class II road B.5305 at Street, to a point 100yd. west of the junction with the Wigton-Brackenthwaite unclassified road including the construction of new carriageway on embankment, for which 50,000 cu. yd. of imported fill material is required, the construction of a reinforced concrete box culvert 134ft. long, drainage, fencing and ancillary works. Documents from County Surveyor, Citadel Chambers, Carlisle. Deposit £5. Tenders by Feb. 6.

Cumbernauld, Lanarks.—Seafar 5—site preparation, for Development Corporation, comprising approximately: 1,300 sq. yd. of 18ft. wide carriageway; 650 lin. yd. of surface water sewers varying from 6in. to 15in. diameter; 500 lin. yd. of 6in. diameter foul sewers. Applications to the General Manager, Cumbernauld Development Corporation, Cumbernauld House, Cumbernauld, Glasgow, by Jan. 25.

Denbighshire.—Making up Park Road, Ponciau, for C.C., involving the construction of approx. 1,050 sq. yd. of tarmac macadam carriageway, together with kerbing, footway, surface water drainage and other incidental works.

Documents from the County Surveyor, 46 Clwyd Street, Ruthin, Denbighshire. Deposit £2 2s. Tenders by Feb. 6.

Ebbw Vale, Mon.—Burning-off and planing 2,700 sq. yd. of carriageway, laying of 3,530 sq. yd. of hot rolled asphalt 2in. thick and other ancillary works, for U.D.C. Documents from J. M. Davies, engineer and surveyor, District Council Offices, The Walk, Ebbw Vale. Tenders by Feb. 2.

Edinburgh.—Construction of road and footpaths, Silverknowes link road, extending to approximately 600yd., for B.C. Documents from City Engineer, 329 High Street, Edinburgh. Tenders by Feb. 1.

Edinburgh.—Providing and laying asphalt surfaces, etc., following abandonment of tramways in Constitution Street and Bernard Street. Documents from City Engineer, 329 High Street, Edinburgh. Tenders by Feb. 1.

Edinburgh.—Road works at City Hospital, for B.C. Comprising site clearance, construction of approximately 240 lin. yd. of 6in. diameter firelay pipe sewer and drains; construction and surfacing of approximately 1,427 sq. yd. of carriageway and 353 sq. yd. of footpath in bitumen macadam and asphalt, and various ancillary work. Documents from the City Engineer, 329 High Street, Edinburgh. Tenders by Jan. 27.

Egham, Surrey.—Construction of carriageways and footpaths, (length approx. 150yd.), at Timsway, for U.D.C. Documents from the Engineer and Surveyor's Office, Fire Station Buildings, High Street, Egham. Tenders by Jan. 30.

Epsom and Ewell, Surrey.—Reinstatement of trenches, for B.C. Deposit £2 2s. Tenders by Jan. 29.

Epsom and Ewell, Surrey.—Widening and reconstruction of Kingston Road, from Mavis Avenue to Stoneleigh Park Road, improvement scheme part II, for B.C., comprising the construction of a dual carriageway approx 630yd. in length with footpath and ancillary works; construction is to be lean rolled concrete surfaced with approx. 10,000 sq. yd. of hot rolled asphalt. Documents from Colin Cobbett, Engineer and Surveyor, Town Hall, Epsom. Deposit £5 5s. Tenders by Feb. 12.

Farnworth, Lancs.—Supply and laying of hot rolled asphalt surfacing at Plodder Lane and Bradford Road, for B.C. Tenders by Jan. 30.

Fifeshire.—Improving Kincardine-Kirkcaldy-St. Andrews trunk road at Abden Home, for C.C. Extending to 600ft., and including construction of masonry faced mass concrete retaining wall, approximately 400ft. long, maximum height 12ft., contract also includes earthworks, bottoming, surfacing, kerbing and surface water drainage. Documents from the County Surveyor, County Offices, Belfield, Cupar. Deposit £2 2s. Tenders by Feb. 12.

Galway, Eire.—Construction of the bridge over the River Killimor at Hearnesebrook, near Killimor, for C.C., comprising (a) construction of new reinforced or prestressed concrete bridge of 45ft. 9in. clear span and parapets; (b) construction of mass concrete retaining walls and boundary walls. Document from F. S. Rishworth, 29 Leeson Park, Dublin. Deposit £26 5s. Tenders by Feb. 15.

Glamorgan.—Making-up of the following, for C.C.: (1) Oakdale Road, Penrhifwfer, the principal works comprising carriageway, 650 super. yd.; footpaths, 280 super. yd.; kerbing, 180 lin. yd.; and incidental works; (2) Glenavon Terrace, Gilfach Goch, the principal works comprising: carriageway, 1,500 super. yd.; footpath, 140 super. yd.; kerbing, 340 lin. yd.; and incidental works. Documents from the County Surveyor, County Hall, Cardiff. Deposit £3 each contract. Tenders by Feb. 15.

Harlow, Essex.—Construction of road E.6, for Development Corporation. Deposit £10. Tenders by Feb. 29.

Harrow, Middx.—Reconstruction of approaches to railway bridge, for B.C. Deposit £2, payable to B.C. Tenders by Feb. 3.

Havant and Waterloo, Hants.—Private street works at Westbourne Avenue, Emsworth, for U.D.C. Works comprise: Excavation to formation level, the provision and laying of hardcore or 6in. lean concrete as base to 690 sq. yd. of carriageway surfacing; the provision and laying of 230 lin. yd. of kerb, the construction of 500 sq. yd. of flexible footway; 190 sq. yd. of verges; 70 lin. yd. of 9in. dia. surface water sewer, 95 lin. yd. of 9in. dia. s.g.s.w. soil sewer house connections, and ancillary works. Documents from the Engineer and Surveyor, 1 Park Road North, Havant. Tenders by Feb. 10.

Hendon, Middx.—Widening and resurfacing of carriageway and footway with fine cold asphalt, together with new kerbing, etc., at Wise Lane, Mill Hill (from Daws Lane to Page Street), for B.C. Documents from the Borough Engineer, Town Hall, London, N.W.4. Deposit £2 2s. Tenders by Feb. 8.

Hereford.—Construction of the access road to the abattoir site, comprising the provision

of surface water drainage, kerbing, channelling, pitched foundation, tarmac macadam surfacing and all incidental works, for City Council. (Carriageway area approx. 1,000 sq. yd.) Documents from the office of the City Surveyor, Town Hall, Hereford. Deposit £2 2s. Tenders by Feb. 1.

Hindley, Lancs.—Making-up Darby Lane, for U.D.C. Involving kerb and channel work, construction of foundations to carriageway, carpeting, footpath work and surface water gullies and connections. Documents from the Engineer and Surveyor, Town Hall, Hindley. Deposit £2 2s. Tenders by Jan. 29.

Hoddesdon, Herts.—Construction of a lay-by at The Drive, for U.D.C. Tenders by Feb. 5.

Hornchurch, Essex.—Re-laying of precast concrete paving, for U.D.C. Deposit £2 2s. Tenders by Jan. 29.

Hull.—Construction of approximately 2,225 sq. yd. of concrete road and 193 lin. yd. of sewer on the permanent housing site, Ref. No. 120, residential area No. 13, stage 1 (Nornabell Street/Barnsley Street), for City Council. Documents from the City Engineer, Guildhall, Kingston upon Hull. Deposit £2, payable to City Treasurer. Tenders by Feb. 8.

Keighley, Yorks.—Construction of roads and sewers, for B.C. Tenders by Feb. 15.

Kingston-upon-Thames, Surrey.—Surface dressing of main drive and construction of carriageway and footpath at Kingston Cemetery, for B.C. Documents from Borough Surveyor, Guildhall, Kingston-upon-Thames. Deposit £2 2s. Tenders by Jan. 26.

Lancashire.—Construction and completion of roadworks in the undermentioned private streets, for C.C.: Kingsway (part of), Penwortham, Preston Rural District; Rose Street (part of), Farington, Preston Rural District. Plans seen at County Surveyor's Office, County Hall, Preston. Documents from County Surveyor and Bridgemaster, P.O. Box 9, Preston. Deposit £2, cheques payable to C.C. Tenders by Jan. 29.

Lancashire.—Construction and completion of roadworks in Manor Lane, Penwortham, for C.C. Documents from County Surveyor and Bridgemaster, P.O. Box 9, Preston. Deposit £2 payable to C.C. Tenders by Jan. 29.

Leeds.—Carrying out of the soil investigation requirements of the City Architect's Department for a period of 12 months, for City Council. Deposit £1. Tenders by Feb. 3.

Middleton, Lancs.—Making-up four private streets, for B.C. Deposit £2 2s. Tenders by Jan. 30.

Morpeth, Northumb.—Reinstatement of housing estate footpaths at Longhorsley and Scots Gap, for R.D.C. Documents from J. R. Miles, engineer and surveyor, Council Offices, Dacre Street, Morpeth. Tenders by Feb. 1.

Newcastle-under-Lyme, Staffs.—Making-up of parts of Oaklands Avenue and part of Keeling Street, for B.C. Tenders by Feb. 8.

Newport Pagnell, Bucks.—Reconstruction of the carriageway and the construction of a new footway in Broad Street, for U.D.C., comprising the laying of about 2,200 sq. yd. of reinforced concrete carriageway, 350 lin. yd. of precast concrete kerbing, 800 sq. yd. of precast concrete paving slabs and 350 lin. yd. of concrete surface water sewer, together with manholes and other ancillary works. Documents from Pick, Everard, Keay and Gimson, consulting engineers, 6 Millstone Lane, Leicester. Deposit £5 5s. Tenders by Feb. 2.

Northwich, Ches.—Lifting of the carriageway and footways of Castle Street to a maximum height of 3ft. 6in., including approximately 400 cu. yd. wet mix filling, 1,800 sq. yd. of bituminous macadam surfacing, 700 sq. yd. of flagging, 250 lin. yd. of 5in. by 10in. kerbing and 170 lin. yd. of 15in. diameter concrete tubes, together with all necessary ancillary works, for U.D.C. Documents from the Engineer and Surveyor, the Council House, Northwich. Tenders by Feb. 1.

Portsmouth.—Making up following, for City Council: Hamilton Road, Paulsgrove—112 lin. yd.; Zetland Road, Farlington—193 lin. yd.; Gloucester Place and Gloucester Terrace, Southsea—176 lin. yd., comprising the provision of new, and the strengthening of existing hardcore foundations, the provision of kerbing and channelling, the surfacing of bitumen macadam to the carriageways and of asphalt to the footways. The contract for Gloucester Place and Gloucester Terrace also includes the construction of approx. 83 lin. yd. of 9in. dia. storm water sewer with gully connection. Documents from the City Engineer, 1 Clarence Parade, Portsmouth. Deposit £2. Tenders by Jan. 29.

Prestatyn, Flints.—Making-up of following, for U.D.C.: Ffordd Pendyffryn (parts A and B), Eden Avenue (part of) and parts of High Street by-pass and Kings Avenue. The work consists mainly of approximately 2,760 sq. yd. of pitched carriageway, 1,685 sq. yd. of flag paved footpaths and 290 lin. yd. of surface water sewer and all incidental works. Documents from T. Grant, engineer

and surveyor, Council Offices, Prestatyn. Tenders by Feb. 4.

Radcliffe, Lancs.—Making-up of School Street, for B.C. Documents from the Borough Engineer, Town Hall, Radcliffe. Tenders by Feb. 2.

Rochdale, Lancs.—Making-up of the following, for B.C.: Bruce Street, Onslow Street, Hargreaves Street, Manley Road, Meadow (part), the passage at the side of 33 Bolton Road, Kenilworth Road (part) and Cliftonville Road (part). Documents from Borough Surveyor, Town Hall, Rochdale. Tenders by Feb. 2.

Sheerness, Kent.—Reconstruction of North Street and South Street, for U.D.C. Deposit £2 2s. Tenders by Jan. 30.

Staines, Middx.—Improvements at Horton Road, Stanwell Moor, for U.D.C. Deposit £2 2s. Tenders by Feb. 4.

Staines, Middx.—Take up and re-lay kerb and paving; provide and lay new kerb and paving; footway surfacing; carriageway surfacing; the construction of connections to the main sewer; and construction of carriage crossings, for U.D.C. Documents from the Engineer and Surveyor, Shortwood House, 240 London Road, Staines. Deposit £2 2s. Tenders by Feb. 4.

Sunbury-on-Thames, Middx.—Making-up Ash Road, Shepperton, with hot rolled gravel asphalt carriageway, artificial stone paving footpaths, concrete kerbs and channels, concrete surface water drainage, and ancillary works, for U.D.C. Documents from the Engineer and Surveyor, Council Offices, Sunbury-on-Thames. Tenders by Feb. 1.

Sutherland.—Strathsteven overline bridge, for C.C. Construction of a bridge in steel and reinforced concrete, together with earthworks and surfacing of the approach roads thereto. The bridge has a skew span of 58ft. and the width between parapets is 29ft. 6in. The approximate length of the approaches is 1,200yd. Documents from Blyth and Blyth, engineers, 135 George Street, Edinburgh, and 56 High Street, Inverness. Deposit £5 5s., payable to C.C. Plans also seen at the offices of the County Road Surveyor, Brora. Tenders by Jan. 29.

Sutton and Cheam, Surrey.—Construction of Cheam Road car park extension, for B.C., comprising excavation, grading, bitumen macadam, kerbing, channelling and ancillary works over an area of approx. 0.2 acres. Documents from C. Needham, Municipal Offices, High Street, Sutton. Deposit £2 2s., cheques payable to B.C. Tenders by Feb. 5.

Tottenham, Middx.—Carrying out of West Road and Heybourne Ditch surface water drainage scheme, for B.C. Work comprises the laying of main sewers in roads, open spaces and under British Railways main Cambridge line, and in the northern part of the borough. It includes the laying of over 1,600 lin. yd. of sewers, ranging in size from 9in. to 57in. dia. together with standard and special manholes, 8 lin. yd. of in-situ culvert and other ancillary works. Documents from the Borough Engineer's Department, Town Hall, London, N.15. Deposit £2. Tenders by Feb. 15.

West Bromwich, Staffs.—Reconstruction and widening of Swan Bridge over the Wednesbury Old Canal, and the laying of a 21in. dia. sewer under the canal, for B.C. Applications to L. G. Mouchel and Partners, consulting engineers, 38 Victoria Street, London, S.W.1, by Feb. 3. Deposit £5 5s. Tenders by March 3.

Wirral, Ches.—Private street works Kingsway, for U.D.C. Tenders by Feb. 8.

Wivelsley and West Drayton, Middx.—Horton Road improvement, stage III, for U.D.C. Deposit £2 2s. Tenders by Feb. 15.

SEWERAGE, SEWAGE AND REFUSE DISPOSAL

***Adover, Hants.**—Main drainage of Chilton and Wherwell, contract 1, for R.D.C. Deposit £3 3s. (cheques payable to R.D.C.). Tenders by Feb. 10.

***Basingstoke, Hants.**—Main drainage of Basing contract 3, for R.D.C. Deposit £5 5s., cheques payable to R.D.C. Tenders by Feb. 29.

Beverley, Yorks.—Construction of approximately 100yd. of 15in. diameter concrete sewer and two manholes at Common Lane and Boothferry Road, Welton, for R.D.C. Documents from G. Palfreyman, engineer and surveyor, 22 Lairgate, Beverley. Deposit £1 1s., cheques payable to R.D.C. Tenders by Feb. 3.

***Brigg, Lincs.**—Brigg sewerage scheme, contract 1, for U.D.C. Deposit £3 3s., cheques payable to U.D.C. Tenders by March 18.

Bromsgrove, Worcs.—Laying 84 lin. yd. 6in. dia. foul sewer, at High House Drive, Lickley, for U.D.C. Documents from the Engineer and Surveyor, Council House, Bromsgrove. Deposit £2 2s. Tenders by Feb. 20.

***Chapel-en-le-Frith, Derbys.**—Construction of a sewage disposal works extension at Castleton and Hope, for R.D.C. Deposit £5. Tenders by Feb. 9.

Chester.—Following at Blacon V. housing estate, contract 571, for City Council. Approx. 6,500 lin. yd. of glazed stoneware and concrete tube foul and surface water sewer works from 6in. diameter to 36in. diameter; approx. 3,600 lin. yd. of preliminary road works including macadam foundation and base course and concrete bed and haunch to kerbs. Documents from the Engineer and Surveyor, 49 Northgate Street, Chester. Tenders by Feb. 1.

Coleraine, Londonderry.—Construction of Jubilee Terrace urban drainage scheme, for B.C., comprising the laying of approximately: (a) 144 lin. yd. of 36in. diameter concrete sewer; (b) 470 lin. yd. of 30in. diameter concrete sewer; (c) 161 lin. yd. of 27in. diameter concrete sewer; (d) 14 lin. yd. of 18in. diameter concrete sewer. Documents from the Borough Surveyor, 54 Stone Row, Coleraine. Deposit £5 5s. Tenders by Jan. 30.

Cuckfield, Sussex.—Constructing 600yd. of 18in. sewer and 260yd. of 12in. sewer at Lindfield, for U.D.C. Documents from the Surveyor, Council Offices, Oaklands, Haywards Heath. Deposit £2 2s. Tenders by Feb. 8.

***Finchley, Middx.**—Supply of labour, vehicles, plant and tools for the daily loading and transporting of refuse, for B.C. Deposit £2. Tenders by Feb. 1.

Havant and Waterloo, Hants.—Construction of a soil sewer at Bosmere Road, Hayling Island, for U.D.C. Works comprise 260 lin. yd. of 9in. dia. and 104 lin. yd. of 6in. dia. spun-iron pipe, precast concrete manholes, 190 lin. yd. of 4in. dia. s.g.s.w. pipe for house connections, and ancillary works. Documents from the Engineer and Surveyor, 1 Park Road North, Havant. Tenders by Feb. 10.

Helston, Corn.—Construction of 6in. and 9in. sewers at Porthleven, for B.C. Documents from the Borough Surveyor, the Guildhall, Helston. Tenders by Feb. 3.

***Hertfordshire.**—Culvert at Brickenden Lane, for C.C. Tenders by Feb. 10.

***Huddersfield, Yorks.**—Construction of workshops, offices and other buildings at the sewage works, Station Road (contract 21), for E.C. Deposit £10.

Keighley, Yorks.—Construction of roads and sewers at Low Bank housing estate, for B.C. Documents from the Borough Engineer, College Street, Keighley. Tenders by Feb. 15.

Leeds.—Constructional work for experimental activated sludge plant at Knostrop sewage works, for City Council. Documents from the City Engineer, Civic Hall, Leeds, 1. Tenders by Feb. 12.

Leyton, Essex.—Main drainage: West Leyton drainage area 4, section 1, for B.C. The work comprises some 2,100 lin. yd. of superimposed sewers, varying from a 9in. dia. surface water sewer over a 27in. dia. foul water sewer to an 8ft. x 2ft. 9in. foul water sewer over an 8ft. x 4ft. surface water sewer, together with 654 lin. yd. of 5ft. x 4ft. 3in. foul water sewer, 197 lin. yd. of 8ft. x 4ft. surface water sewer and the requisite manholes. Excavation will be open trench throughout, depths varying from 7ft. to 25ft. Applications to the Engineer and Surveyor, Town Hall, Leyton, London, E.10, by Feb. 2.

Montgomeryshire.—New sewage disposal plant, drainage works, renovations and repairs to cloakrooms and new floors to classrooms at Staylittle Primary School, for C.C. Documents from J. A. Davies, director of education, Education Offices, Newtown. Tenders by Feb. 6.

***St. Albans, Herts.**—Construction of sewers, Redbourn Lane, for R.D.C. Tenders by Feb. 18.

St. Faith's and Aylsham, Norfolk.—Following, for R.D.C.: (a) Construction of 4in. and 6in. lateral connections to sewers in the parish of Hellesdon; and (b) works of adaptation of drainage arrangements within the curtilage of houses in conjunction with such connections. Documents from the Surveyor, Tudor Hall, Rose Lane, Norwich. Tenders by Feb. 1.

Southampton.—Construction of approx. 230yd. of 48in. dia. culvert in Armo corrugated steel pipes on a site off Warren Avenue, Shirley, for B.C. Applications to the Engineer and Surveyor, Civic Centre, Southampton, by Jan. 25.

***Stockton-on-Tees, Dur.**—Junction road relief sewer, for B.C. Deposit £2 2s. Tenders by Feb. 4.

Stourbridge, Worcs.—Construction of approximately 145yd. of 9in. and 6in. foul and storm water sewers, including manholes, on the Wollaston Farm estate, for B.C. Documents from H. W. Morris, engineer and surveyor, Co'nail House, Stourbridge. Deposit £2 2s. Tenders by Feb. 10.

Stroud, Kent.—Construction of a 6in. diameter sewer, approximately 1,057 lin. yd. at Chilton Hills, Higham, for R.D.C. Documents from the Engineer and Surveyor, Council Offices, Frindsbury Hill, Stroud. Deposit £2 2s. Tenders by Feb. 5.

Torrington, Devon.—Merton sewerage and sewage disposal, for R.D.C. Deposit £5 5s. (cheques payable to R.D.C.). Tenders by Feb. 26.

***Torrington, Devon.**—Petrockstow sewerage and sewage disposal, for R.D.C. Deposit £5 5s. (cheques payable to R.D.C.). Tenders by Feb. 26.

West Penwith, Corn.—Construction of approximately 656 lin. yd. of 6in. diameter sewers with 19 manholes and a small sewage treatment plant to serve the small village of Treen in the parish of St. Levan, for R.D.C. Documents from the consulting engineers, G. H. Ivory and Partners, 24 Athenaeum Street, Plymouth. Deposit £2 2s. (cheques payable to R.D.C.). Tenders by Feb. 15.

Wycombe, Bucks.—Laying of 170 lin. yd. of 9in. diameter stoneware sewer in Littleworth Road, Downley, together with the construction of three precast concrete manholes and ancillary works, for R.D.C. Documents from the Engineer and Surveyor, 17 High Street, High Wycombe. Tenders by Feb. 22.

STREET LIGHTING

Batley, Yorks.—Supply of the following equipment for class A lighting, for B.C.: sodium lanterns, 140-W; control gear for above; 140-W sodium lamps and jacks; 25ft. concrete columns with bracket arms; solar dial time switches; 3/029 twin and earth cable. Documents from the Surveyor, Hanover Street, Batley. Tenders by Jan. 30.

***Hornsey, Middx.**—Annual supply of sodium discharge lamps, for B.C. Tenders by Feb. 8.

Oakengates, Salop.—Supply, erection and installation of concrete lighting columns, lanterns, and electrical equipment for 108 group B 60-W sodium lighting units in various district roads, for U.D.C. Documents from the Engineer and Surveyor, Council Offices, Stafford Road, Oakengates. Deposit £2 2s. Tenders by Feb. 3.

AWARDS

BUILDING AND DECORATING

(See also Housing Schemes)

Aston-on-Trent, Notts.—External service for development at Aston Hall, for Sheffield Regional Hospital Board: Gee, Walker and Slater, Ltd., Uttuxeter Old Road, Derby, £33,677 (recommended).

Basingstoke, Hants.—Erection of shop premises at junction of New Street and Winchester Street, for the Basingstoke Co-operative Society, Ltd. Plans by the Architects' Department, Co-operative Wholesale Society, Ltd., 99 Leman Street, London, E.1: Co-operative Wholesale Society Building Department, Barking, Essex. Estimated cost £200,000.

Belfast.—Extension to factory in Donegal Road, for Ministry of Finance. H. M. McMordie, architect, 29 Wellington Place, Belfast: F. H. Kerr and Co., Ltd., 81 Ladas Drive, Belfast.

Billingham-on-Tees, Dur.—Erection of new Most Holy Rosary R.C. Aided Primary School: Tarslag, Ltd., Tees Bridge, Stockton-on-Tees, £52,202.

Bingham, Notts.—Reconstruction at the Old Mill, Station Street, Bingham, for R.D.C. J. R. Clifton, surveyor: N. Jacques and Sons, Ltd., The Banks, Bingham, Nottingham, £1,618. Work to commence Feb. 1.

Birmingham.—Erection of an 11-storey south wing at the College of Technology at Gosta Green. H. V. Ashley and Winton Newman, architects, 3 Verulam Buildings, Grays Inn, London, W.C.1: Tersons, Ltd., 4 Dollis Park, London, N.3, £433,000 (subject to Ministry approval). Work about to commence.

Bishop Auckland, Dur.—Alterations to first floor, block two, at General Hospital, for Newcastle Hospital Board. Fennell and Baddiley, architects, Bridge End Chambers, Chester-le-Street: T. Manners and Son, Peel Street, Bishop Auckland, £8,012.

Bolton, Lancs.—Erection of phase 2 of Technical Teacher Training College, for B.C.: Direct Labour.

Bristol.—Erection of a four-storey block of shops and offices at College Green, for Pearl Assurance Co., Ltd. Alec F. French and Partners, architects, Halifax House, St. Augustine's Parade: W. Cowlin and Son, Ltd., Stratton Street, Bristol. Estimated cost £500,000.

Bristol.—Erection of a block of offices with a showroom, shops and a bank on the ground floor at Clarence Road and Temple Gate, for the Hammerson Group of Companies. Alec F. French and Partners, architects, Halifax House, St. Augustine's Parade, Bristol, 1; H. R. Heasman and Partners, quantity surveyors, 5 Bloomsbury Square, London, W.C.1, and J. H. Coombs and Partners, consulting engineers, Thames Corner, Sunbury-on-Thames, Middx.: Main contractors—Stone and Co. (Bristol), Ltd., Redland Road, Bristol, 6; piling—Cementa-

- tion Co., Ltd., London, S.E.11. Estimated cost £100,000. Work commenced.
- Camberley, Surrey.**—Construction of France Hill County Secondary School, for Co. E.C.: Gee Walker and Slater, Ltd., 100 Park Lane, London, W.1, £161,664.
- Cardiff.**—Alterations at the Law Courts to provide a new juvenile detention room, toilet accommodation and passenger lift, for City Council: Frank Batty and Smith, Ltd., 64 System Street, Cardiff, £8,666 (recommended).
- Chertsey, Surrey.**—Following, for Co. E.C.: Erection of two additional classrooms at The Grange County Primary School—W. W. Harris, Ltd., Coldharbour Lane, Pyrford, Woking, £6,570; additional general science laboratory at Fulbrook County Secondary School—E. Clarke and Sons (Addleston), Ltd., Brighton Road, Addleston, £7,333.
- Chesterfield, Derbys.**—Builder's work for lift at Chesterfield Royal Hospital, for Sheffield Regional Hospital Board: Charles E. Gaunt, Ltd., 21 Boythorpe Crescent, Chesterfield, £2,699 (recommended).
- Cosford, Suffolk.**—Improvement to eight houses at Hall Road, Brent Eleigh, for R.D.C., comprising the provision of bathrooms, etc., the construction of a small sewage disposal works to include septic tank, filter bed and humus tank, together with the laying of approximately 8yd. of 4in. drain and 99yd. of 6in. drain G. H. Hine, engineer and surveyor: W. B. Kingsbury and Sons, Ltd., Commerce House, Boxford, near Colchester, Essex, £4,835 (accepted); Bennett and Snare, £4,921.
- Derby.**—Following, for the Sheffield Regional Hospital Board: Ancillary accommodation in block for males at Manor Hospital—A. Holmes and Sons, Ltd., Navigation Bridge, London Road, Derby, £3,444; sanitary accommodation, sluice rooms, wards F.5 and M.1, and sanitary annex, wards F.1 and F.3 at Kingsway Hospital—W. Ford and Sons, Ltd., Summer Hill, Beckett Well Lane, Derby, £701, £3,762 and £2,236, respectively; builder's work for extension of heating and hot water services at Kingsway Hospital—J. H. Fryer, Ltd., Great Northern Road, Derby, £1,059 (all recommended).
- Dewsbury, Yorks.**—Erection of four lock-up shops on the Open Market, for B.C.: Wortley and Boothroyd, Ltd., Ravensthorpe, Dewsbury, £1,662 (recommended).
- Dundee.**—Extension to works, for William Halley and Sons, Ltd., Broughty Ferry Road. Thomas W. Reid, architect, 30 Reform Street; W. J. R. Christie, quantity surveyor, 45 South Tay Street; J. B. Hay and Co., Ltd. (Builders), 6 Guthrie Street, Dundee, and Taysteel (Structural Engineers), Ltd., West Kingsway, Dundee. Estimated cost £20,000. Work commenced.
- Durham.**—Following, for C.C.: Structural steelwork for the Billingham Campus School—J. W. Ellis and Co., Ltd., 30 Great North Road, Newcastle upon Tyne, £25,307.
- Alterations and additions to Shiny Row County and Modern Schools—H. F. Mole and Co., Ltd., Broadwood View, Chester-le-Street, £11,129.
- Eccles, Lancs.**—Erection of a church and a presbytery adjoining the present church and hall in Aldred Street, for the Salford Roman Catholic Diocesan Trustees, Ltd.: Walter Stirrup and Son, architects, 14 Richmond Terrace, Blackburn; T. Summer Smith and Partners, quantity surveyors, 5-7 Library Street, Blackburn; Robert Carlyle and Co., Ltd., Elsinore Road, Old Trafford, Manchester, 16, £52,000.
- Edinburgh.**—Erection of a research, manufacturing and development unit at Crewe Toll, Ferry Road, for Ferranti, Ltd. Fairbrother Hall and Hedges, architects, 27 Rutland Square, Edinburgh, 1; James Gentles and Sons, quantity surveyors, 3 Hill Street, Edinburgh, 2; Crudens, Ltd., Olive Bank, Musselburgh. Estimated cost £150,000. Work expected to commence in February.
- Fencehouses, Dur.**—Factory extensions for Bursgreen, Ltd. Mauchlen, Weightman and Elphick, architects, 12 Saville Row, Newcastle upon Tyne; William Norman, West Lane, Chester-le-Street, Co. Durham.
- Graham, Lincs.**—Erection of a factory at Gonerby Hill Foot, for Wolsey, Ltd., Leicester: Turfitt Construction Corporation, Ltd., Budbrooke Road, Warwick.
- Guildford, Surrey.**—Erection of public mortuary and post-mortem room, for B.C.: Cox (Public Works), Ltd., Hassocks, Brighton, Sussex, £6,526 (recommended).
- Guildford, Surrey.**—Construction of Tillingbourne County Secondary School, for Co. E.C.: R. Holford and Co., Ltd., Walnut Tree Close, Guildford, £86,890.
- Hatfield, Herts.**—Erection of a Congregational church in Oaklands Avenue, Brookmans Park, for the Herts. Congregational Union: Townsend and Collins, Ltd., 129 Goat Lane, Enfield, Middx. Estimated cost £12,795.
- Hendon, Middx.**—Following at Hendon Way Depot, for B.C.: Construction of storage bays, site works, including hard standings for vehicles, erection of salt store, provision of carpenter's shop, heating installation throughout new buildings, lighting, etc.: Direct Labour (recommended). Estimated cost £19,450.
- Ipswich.**—Erection of public conveniences at the White House Recreation Ground, Norwich Road, for B.C.: Direct Labour. Estimated cost £2,100.
- Isle of Ely.**—Construction of the first instalment of the permanent buildings for Witchford County Secondary School, which will be built on the existing hutted school site at Witchford, near Ely, for C.C. K. C. Evans, county architect: Roke (Builders), Ltd., West Park Road, Chatteris. Work commencing in 25.
- ft., K. C. Evans, county architect: Rooke (Builders), Ltd., West Park Road, Chatteris. Work commencing Jan. 25.
- Islington.**—Repair and conversion works to dwellings, as follows, for B.C.: 52 Wray Crescent—H. Bartlett, 39 Balls Pond Road, London, N.1, £2,225; 19 Ireton Road—W. Easter and Sons, 51 Newington Green Road, London, N.1, £1,825; 50 Loraine Road—R. Talbot and Sons (London), Ltd., 356 Caledonian Road, London, N.1, £1,646; 53 Loraine Road—Kenny and Reynolds, 28 Loraine Road, London, N.7, £1,599; 56 Axminster Road—W. T. Ricketts and Sons, Ltd., 73 Southgate Road, London, N.1, £2,628.
- Construction of a urinal at Highbury Hill, for B.C.: C. and F. Bryen, Ltd., 170 Hornsey Lane, London, N.6, £990 (recommended).
- Leeds.**—Following works, for City Council: Erection of 151 garages on various sites, contract 679—Reema Construction, Ltd., Limewood Road, Leeds, 14, £22,501; 53 garages, contract 697—William Townson and Sons, Ltd., Higher Swan Lane, Bolton, £8,357; 30 garages, contract 715—F. Shepherd and Son, Ltd., Blue Bridge Lane, York, £4,869 (recommended, subject to Ministry approval).
- Extensions to Customs office at airport and preliminary work for alterations at Beckett Street destructor to provide office and mess-room accommodation—Direct Labour (recommended). Estimated cost £2,000 and £1,480, respectively.
- Erection of public conveniences at Sea-croft, York Road and Halton—Reema (Chesterfield), Ltd., Stortforth Lane, Chesterfield, Derbys., £1,971, £1,928 and £2,169, respectively; Meanwood, Kirkstall and Headingley—G. Monkman and Son, Ltd., Nowell Lane, Leeds, 9, £2,059, £2,092 and £2,454, respectively (recommended).
- Lexden and Winstree, Essex.**—Provision of prefabricated garages at West Bergholt, Stanway, Boxted, Tiptree, Fingringhoe, Birch and Dedham, for R.D.C.: E. Batley, Ltd., 96 College Road, Holbrooks, Coventry, War., £4,532 (recommended, subject to Ministry approval).
- Llandudno, Caerns.**—Erection of a treatment house alongside the existing meter house at Plas Duly, Llanbedd, near Conway, for U.D.C. J. A. Edwards, engineer, surveyor and water engineer: Frank Tydesley, Ltd., 44 Queens Road, Llandudno, £1,286. Work to commence April.
- Lurgan, Armagh.**—Extension to a factory, for Ministry of Finance. W. C. Callaghan, architect, Church Street, Portadown; Thos. Hyde, and Sons, Ltd., Mandeville Street, Portadown.
- Manchester.**—Development in Market Street and Corporation Street, for Unicos Property Corporation, Ltd. Cruickshank and Seward, architects, Royal London House, 196 Deansgate; Henry Matthews and Sons (Builders), Ltd., Oldham Street, Denton, Manchester.
- Manchester.**—Following works, for City Council: Construction of a scullery and dining room at Blackley Technical High School—A. H. Prosser, 87a Monton Street, Manchester; erection of kitchen/dining room at St. John's R.C. School, Benchill—G. and J. Seddon, Ltd., Little Hulton; roofing work—Limmer and Trinidad Lake Asphalt Co., Ltd., Manchester; erection of sports pavilion at River Mersey playing fields—Direct Labour.
- Completion of the engineering block for Chorlton Grammar School—E. Kennedy, Ltd., Manchester (in lieu of previous tender).
- Mansfield, Notts.**—Erection of a centre for handicapped people at Dallas Street, for the C.C. Welfare Committee. W. D. Lacey, county architect; Leonard Fletcher, quantity surveyor, North Church Street, Bakewell.
- Derbys: J. Searson, Ltd., Station Road, Sutton-in-Ashfield, Notts. Estimated cost £50,000. Work to commence March.
- Mansfield, Notts.**—Following, for Sheffield Regional Hospital Board: Pathology laboratory at Mansfield and District General Hospital—Crookes and Butler, Victoria Street, Mansfield, £8,227; builder's work for water softener at Victoria Hospital—Kirk Bros., Ltd., 112 George Street, Mansfield, £1,532 (both recommended).
- Middlesbrough, Yorks.**—Following works, for B.C.: Erection of superstructure for changing accommodation, etc., at Albert Park skating rink—T. Carr, Wheatley Bridge, £1,087; erection of maternity and child welfare centre, Carlow Street—Marsh (Builders), Ltd., Grange Field Road, Stockton-on-Tees, £14,659 (both recommended).
- Four shops and two flats at Beechwood—G. N. Gamesby, 36 Maldon Road, Middlesbrough, £16,938.
- Morley, Yorks.**—Conversion of picture house in Queen Street into supermarket, for the Howard Collings Group of Companies. Douglas O. Feast, architect, 20 Wood Stock Street, London, W.1; Burley Lane and Partners, quantity surveyors, 66 Great Cumberland Place, London, W.1; G. E. Wallis and Sons, Ltd., 231 Strand, London, W.C.2.
- Neath Higher, Glam.**—Construction of an open-air swimming pool in reinforced concrete, size 100ft. by 30ft., together with dressing box accommodation, filter house, etc., at Glyn-Neath, for Parish Council. Wallace Evans and Partners, consulting engineers, 30 Stanwell Road, Penarth, Glam.; L. T. Rees (Contractors), Ltd., Glyn-Neath, £19,799 (accepted); F. Batty and Smith, Ltd., £20,106; Robt. M. Douglas (Contractors), Ltd., £20,906; Staverton Contractors (Wales), Ltd., £21,117; J. and P. Zammitt, Ltd., £22,242; Isaac Jones (Llanely), Ltd., £22,491; J. E. Jones and Co., Ltd., £29,694. Work has commenced.
- Newbury, Berks.**—Alterations to the bowling green pavilion at Victoria Park, for B.C.: R. C. Smallbone (Newbury), Ltd., £488.
- Newport, Mon.**—Construction of an office, waiting room and store at Transporter Bridge, for B.C.: Williams and Wilkes, Newport, £1,591 (recommended).
- Newry, Armagh.**—Erection of a factory at Armagh Road, for Ulster Farmers' Bacon Co. (Newry), Ltd., 23 Monaghan Street, Newry. Houston and Beaumont, architects, 9 Market Street, Lurgan; F. B. McKee, Ltd., Shore Road, Belfast. Estimated cost £250,000.
- Northampton.**—Redevelopment of the Peacock Hotel site in the Market Square, for the New Peacock, Ltd., L. Cooke, architect, Eastgate House, Cheyne Walk; Bernard Sunley and Sons, Ltd., Berkeley Square, London, W.1. Estimated cost £140,000.
- Northampton.**—Erection of block of shops and offices on site of new theatre at Abington Street, for Venture Property and Development Co., Ltd., Venture House, 3 Buckingham Palace Gardens, London, S.W.1. Plans by staff architect, Chamberlain and Partners, consulting engineers, 29 Bedford Row, London, W.C.1—Ford and Walton, Ltd., Walton House, Warton Road, London, E.15.
- Northern Ireland.**—Plumbing, electrical and patent tile flooring sub-contracts for 76 dwellings at Braniel (section II) (part II), and in 10 dwellings at Banbridge (on behalf of the Trustees of the late Mary Adams), for Northern Ireland Housing Trust: Braniel: electrical—Adair and Milliken, 1 Parkside Gardens, Belfast; plumbing—John Nelson (Ballymoney), Ltd., John Street, Ballymoney; patent tile flooring—The Marley Tile Co., Ltd., Hyde Park, Mallow. Banbridge (Mary Adams Trust): electrical—Browns Engineering Works, 37 Ward Avenue, Lisburn; plumbing—John Nelson (Ballymoney), Ltd., John Street, Ballymoney; patent tile flooring—The Marley Tile Co., Ltd., Hyde Park, Mallow.
- Norwich.**—Erection of Peter Robinson store on the site of the Gaumont Cinema, Haymarket, for Montague Burton, Ltd., Hudson Road Mills, Leeds, 9. Plans by the architects' department of Montague Burton, Ltd., Ltd.; P. Pank and Partners, quantity surveyors, 15 Lower Close, Norwich; J. Youngs and Sons, Ltd., 24 City Road, Norwich.
- Peterborough.**—Interior redecorating at the Memorial Hospital, Thorpe Hall and the Gables Maternity Hospital, for the Peterborough and Stamford Hospital Management Committee—R. Carter, 2 Lamas Road, Peterborough, £1,562.
- Peterborough.**—Erection of three new shops on site of 97-99 Bridge Street, for N. Wright. Ruddle and Wilkinson, architects, Long Causeway Chambers: Bettles Building Co., Ltd., Alma Road, Peterborough.

Portsmouth.—Following works, for City Council: Extension of Burgoyne Road convenience, Southsea—Direct Labour, £1,107 (recommended); Ralph W. Bailey, £1,258; Upton and Winder, Ltd., £1,693; Henry Jones and Son (Portsmouth), Ltd., £1,778.

Repairs to flat roofs of temporary bungalows at Fairfield Square—E. Bradshaw and Son, 322 Fawcett Road, Southsea, Portsmouth, £791 (recommended); Permaite, Ltd., £884; D. Anderson and Son, £988; Macartney, Ltd., £1,160; A. V. Barnett and Son, £1,331; F. McNeill and Co., £1,360.

Construction of promenade shelter adjoining the South Parade trading kiosk group—Direct Labour, £2,725 (recommended); Jno. Croad, Ltd., £3,824; E. and A. Springs, Ltd., £4,014; Bathbrite (Fareham), Ltd., £4,120.

Radcliffe-on-Trent, Notts.—Adaptations to verandas, ward A and ward B, and servery and connecting corridor for staff dining facilities at Saxondale Hospital, for Sheffield Regional Hospital Board: Bodill and Sons, Ltd., Portland Road, Hucknall, £5,052 and £8,639, respectively (recommended).

Ramsgate, Kent.—Replacing the existing front garden fences and walls with brickwork, on 10 Council houses at Margate Road, for B.C.: Direct Labour (recommended). Estimated cost £339.

Romford, Essex.—Converting existing storage accommodation for use as a school meals kitchen at Manor Primary School, for B.C.: E. W. Smith (Romford), Ltd., £2,898 (recommended, subject to C.C. approval).

Rugby, War.—Erection of 23 garages at Wolvey, Burton Hastings, Withybrook and Anstey, for R.D.C.: Browning Construction Co., Ltd., 19 Hilmorton Road, Rugby, £634 (recommended).

St. Helens, Lancs.—Erection of a three-storey block of seven shops with eight maisonnettes over, to be built in traditional construction on a site fronting on to Dalehead Place, East Lancashire Road estate, for B.C. M. Ward, borough engineer; Kearsley and Gee, Ltd., Ashton-in-Makerfield, Lancs.

Sheffield.—Following, for Regional Hospital Board: Conversion of former sanatorium into geriatric unit at Nether Edge Hospital: Curtis (Plumbers), Ltd., 165 Clarence Street, Sheffield, 3, £5,510; waiting room and sanitary accommodation at King Edward VII Hospital Ackroyd and Abbot, Ltd., 47 Willoughby Street, Sheffield, 4, £5,217; builder's work for lift in main wing at Middlewood Hospital—Bertram and Illingworth, Ltd., Niagara Works, Wadsley Bridge, Sheffield, 6, £2,766; boilerhouse and calorifier room at Grenoside Hospital—C. Otter and Co., Ltd., 148-152 Harvest Lane, Sheffield, 3, £1,867 (all recommended).

Sleaford, Lincs.—Occupational therapy unit at Rauceby Hospital, for Sheffield Regional Hospital Board: Fosters and Rudd, Ltd., Wharf Road, Grantham, £18,152 (recommended).

Solihull, War.—Erection of a hutted block at Sharmans Cross High School for Boys, Shirley, for E.C. C. R. Hutchison, borough engineer and surveyor; T. Elvins and Sons, Ltd., Naden Works, Soho Hill, Birmingham, 19, £5,227 (negotiated tender).

South Molton, Devon.—Extensions at the Cattle Market, for B.C.: C. P. Unwin and Son, Ltd., 33 St. Peter Street, Tiverton, £31,802 (recommended).

Stoke-on-Trent, Staffs.—Erection of an office and shop at Trinity Street, Hanley, for the Leek and Moorlands Building Society, Adams and Green, architects, Stafford Chambers, 3 Brook Street, Stoke; Townsend and Renaudon, quantity surveyors, 40-42 Stoke Road, Shelton, Stoke, and Botteley and Chaffer, consulting engineers, Royal House, South Parade, Sutton Coldfield: C. Cornes and Son, Ltd., Lichfield Street, Hanley, Stoke-on-Trent.

Sunderland.—Following works, for B.C.: Renewal of wash basins and installation of hot water service at Pallion Junior and Infant School—R. H. Cooper, 28 Myrella Crescent, Sunderland, £938; improvements to w.c.s and wash basins, High Southwick Primary School, and improvements to sanitary accommodation, Diamond Hall School—J. and T. Parker, Ltd., St. Oswald's House, Sunderland, £2,263 and £1,421, respectively; improvements to w.c.s and wash basins, Grange Park School—M. W. Forster, Grantham Road, Sunderland, £3,302 (recommended, subject to Ministry approval).

Surbinton, Surrey.—Provision of housecraft room, adaptations to domestic science room, improved water supply and demolition of air-raid shelters at Hollyfield County Secondary School, for C.C.: Anglo Scottish Construction Co., Ltd., 112a Coombe Lane, Wimbledon, £7,615.

Taunton, Som.—Construction of an office block, comprising two interlocking sections,

one seven and one 11 storeys high at Park Street, for The Rodwell Group, Ltd., 9 Hertford Street, London, W.1. Reginald Gallannaugh, architect, 54 Queen Anne Street, London, W.1—Tersons, Ltd., 4 Dollis Park, London, N.3. Estimated cost £250,000. Work about to commence.

Taunton, Som.—Second phase of extensions to the teaching block at Queens College, for the Methodist Education Committee. Edward D. Mills and Partners, architects, and Leslie W. Clark and Partners, quantity surveyors, both of 9-11 Richmond Buildings, Dean Street, Soho, London, W.1: R. G. Spillers, Ltd., High Street, Chard. Work has commenced.

Wallsend, Northumb.—Conversion of the Queens Hall Cinema, Station Road, into showrooms for the Chestnut Garage, Chestnut Street: J. Hedley, Station Road, Wallsend.

Windsor, Berks.—Eight garages at Queen's Close, Old Windsor, for R.D.C.: W. Varney, Ltd., 13 Clewer Hill Road, Windsor, £1,224 (subject to Ministry approval).

Wirral, Ches.—Erection of a single-storey extension to the shop premises at 138a Irby Road, Pensby Haswall, for U.D.C. E. Mellor, engineer and surveyor: Mohins (Bebington), Ltd., 30 Village Road, Bebington.

CLOTHING AND TEXTILES

Cardiff.—Supply of the following, for transport department, for B.C.: (a) Uniform clothing, and (b) mackintoshes—Briggs, Jones and Gibson, Ltd., Enderley Mills, Newcastle-under-Lyme, Staffs., (a) £10,217, and (b) £6,714; caps—Emeralda, Ltd., 21a Working Street, Cardiff, £502 (recommended).

DEMOLITION

Bolton, Lancs.—Demolition of 49 dwellings in Bradford ward No. 1 clearance area, for B.C.: B. G. Blomfield and Sons, (recommended).

Cardiff.—Demolition of 356 Whitechurch Road, for City Council: Lewis and Hill, Mountain Ash, £161 (recommended).

Dewsbury, Yorks.—Demolition of following, for B.C.: 23 houses, contract 36, and 10 houses, contract 38—W. W. Potter, 23 Shillbank Lane, Northpole, Mirfield, £165 and £190, respectively; 40 houses, contract 37—Ibbison Bros., Cross Bank Road, Batley, £220 (recommended).

Richmond, Surrey.—Additional demolition works at 38/40 The Vineyard, for C.C.: Ebenezer Mears and Sons, Ltd., 86 Chertsey Road, Byfleet, Surrey, £420.

ELECTRICAL

Deal, Kent.—Provision and installation of two 60-kW diesel alternators at the water-works, for B.C.: Petbow, Ltd., Imperial House, Dominion Street, London, E.C.2, £4,451 (recommended, subject to Ministry approval).

Derby.—Three phase change-over at Kingsway Hospital, for Sheffield Regional Hospital Board: East Midlands Electricity Board, Derby, £1,656 (recommended).

Dewsbury, Yorks.—Electrical installation at new Secondary Technical School, for B.C.: Southern and Redfern, Ltd., Woodhead Road, Bradford, 7, £10,735 (recommended, in lieu of previous tender).

Islington.—B.C. recommended to appoint Edward Pearce and Partners, 28 Baker Street, London, W.1, as the consultants for major electrical works at Town Hall buildings.

Lincoln.—A.C./D.C. change-over at Bracebridge Heath Hospital, for Sheffield Regional Hospital Board: H. Carr, Ltd., West St. Mary's Gate, Grimsby, £7,912 (recommended).

Manchester.—Provision and installation of switchgear in the No. 11 power house at Davyhulme sewage disposal works, for City Council: A. Reyrolle and Co., Ltd., Hebburn, Co. Durham.

Middlesbrough, Yorks.—Electrical work at central works depot, for B.C.: Haigh and Ringrose, Ltd., 400 Linthorpe Road, Middlesbrough, £14,792 (recommended).

Ryton, Dur.—Installation of electric lighting and heating in 36 houses at Heddon View, Ryton, for U.D.C.: Tindale, Son and Telford, Denton Burn, Newcastle upon Tyne.

FENCING

Kirkby, Lancs.—Provision and erection of approximately 2,400 lin. yd. of 4ft. 6in. high wrought-iron bow-tipped fencing at Websters Pits recreational area, for U.D.C.: Raymond Sleigh, Ltd., Pownall Street, Leigh, Lancs.

Middlesbrough, Yorks.—Supply of concrete fencing posts, according to requirements:

Clevestone, Ltd., Middlesbrough, estimated cost £550; aluminium tubing for fencing, in 40ft. lengths (approximately 10,000ft.)—British Aluminium Co., Ltd., Norfolk House, St. James's Square, S.W.1, 3s. 3½d. per ft.

Romford, Essex.—Chain link fencing work at the proposed Adventure playground at Chatteris Avenue, for B.C.: M.S.J. Fencing Contractors, Ltd., 53 Vallance Road, London, N.22, £229 (recommended).

Stretford, Lancs.—Supply and erection of chain link fencing around the boundaries of Urmston Lane allotments, for B.C.: Wettern Bros. (M/C), Ltd., Albany Road, Manchester, 21, £767 (recommended).

GAS AND WATER SUPPLY

Chesterton, Cambs.—Willingham-Earith Road water extension, for R.D.C., comprising approximately 637 lin. yd. of 3in. a.c. pipes as water mains: M. Ruddy, 52 Glington Road, Helpston, Peterborough, £939.

Chipping Norton, Oxon.—Laying of a 2in. diameter asbestos-cement water main from the Glyme Farm to Southcombe, for B.C.: R. A. M. Crowther, Overthorpe Road, Banbury, £2,095 (recommended).

Isle of Wight.—Modernisation of the Carisbrook pumping station, for the Water Board: Harland Engineering Co., Ltd., 20 Park Street, London, W.1, £45,280.

Llandoil, Carm.—Water main extension at Milo, for R.D.C.: The Beechwood Construction Co., Ltd., Rhosmack, Llandoil, £8,039.

Manchester.—Reinforced concrete and other civil engineering work on the Godley filter plant, for City Council: Direct Labour (recommended).

West Kesteven, Lincs.—Provision and laying of about 7,400 yd. of 6in. diameter spun-iron pipe water mains with flexible joints, etc., in the parishes of Great Ponton, Stoke and Skillington, for R.D.C. Elliott and Brown, consulting engineers, Stanley House, Pelham Road, Nottingham: Stamford Construction, Ltd., Uffington Road, Stamford, £16,967. Work about to commence.

HARBOURS, PIERS AND SEA DEFENCE WORKS

Fleetwood, Lancs.—Sea defence works, priority C, for B.C. Project comprises the construction of groynes, aprons to sea walls, concrete decking and flood walls, macadam decking and roadways and drainage. Lewis and Duvivier, consulting engineers, 122 Victoria Street, London, S.W.1: Lehan, Mackenzie and Shand, Ltd., Matlock, Derbys., £128,763 (recommended, subject to Ministry approval).

HEATING AND VENTILATING

Bangor, Caerns.—Installation of central heating by oil-fired boiler at Town Hall, for B.C.: Hopol, Ltd., Industrial Estate, Conway Road, Mochdre, Colwyn Bay, £1,935 (recommended).

Chesterfield, Derbys.—Central heating in Durrant Hall, Royal Hospital, for Sheffield Regional Hospital Board: J. W. Harrison and Sons, 208 Cobden View Road, Sheffield, 10, £2,186 (recommended).

Derby.—Improvements to hot water services at Thornhill House, for Sheffield Regional Hospital Board: J. Hughes (Heating), Ltd., 2 Newthorpe Street Meadows, Nottingham, £2,234 (recommended).

Ellesmere Port, Ches.—Following works at proposed municipal depot, Rossmore Road East, for B.C.: (a) Medium pressure hot water heating installation, ventilation and hot water service; (b) electrical installation. R. W. Gregory and Partners, consulting engineers, 1 Brazenose Street, Manchester, 2: (a) Brightside Heating and Engineering Co., Ltd., 242 Upper Parliament Street, Liverpool, 8, £22,390 (accepted); Shelbourne Letherby and Co., Ltd., £24,467; C. Seward and Co., Ltd., £24,782; Young, Austen and Young, Ltd., £25,064. (b) Engineering Services Installations, Ltd., 193 St. Marys Road, Garston, Liverpool, 19, £16,056 (accepted); T. Wood and Son (Chester), Ltd., £16,227; N. G. Bailey (N.W.), Ltd., £16,400; Tanjon (N.C.), Ltd., £16,670.

Portsmouth.—Following works at St. Mary's House, for City Council:

Contract 6—Insulation: R. B. Hilton, Ltd., Cresswell Park, Blackheath, London, S.E.3, £3,321 (accepted); Versil, Ltd., £1,864; Newalls Insulation Co., Ltd., £1,963; Kitsons Insulations, Ltd., £2,229; Halson Asbestos and Engineering Co., Ltd., £1,744.

Contract 7—Instrumentation: John Thompson Instrument Co., Ltd., Ettingshall, Wolverhampton, £1,555 (accepted); Thermo Control Instrument Co., Ltd., £2,405; Associated British Combustion Co., Ltd., £2,027; James Gordon and Co., Ltd., £1,937.

HOUSING SCHEMES

- Bedlington, Northumb.**—Sixty Trusteel houses on the Morpeth Road housing site, for U.D.C. A. K. Dennis, surveyor: Direct Labour.
- Cardiff.**—Following works, for City Council: Trial borings at Trowbridge Road private housing site—Le Grand Adscio, Southall, Middx., £777 (recommended).
- Two houses at Cheddar Crescent, Llanrumney—J. North and Sons, Ltd., Plasnewydd, Rumney, Cardiff, £3,756 (in lieu of previous tender).
- Carlisle, Cumb.**—Twenty-eight dwellings on various sites in the city, for City Council: H. Cartner and Sons, 8 Knowe Terrace, Carlisle, £29,046 (recommended, subject to Ministry approval).
- Derby.**—Conversion into flats of Conister, Uttoxeter Road, for Sheffield Regional Hospital Board: W. Ford and Sons, Ltd., Summer Hill, Beckett Well Lane, Derby, £1,994 (recommended).
- Dukinfield, Ches.**—One hundred and sixty Homeville dwellings, for B.C.: Middleton and Co. (Blackpool), Ltd., Bank Street Sidings, Blackpool, £174,849 (recommended, in lieu of previous tender).
- Enfield, Middx.**—Forty flatlets at Parsonage Lane, for B.C. Tenders received: Cawood Wharton and Co., Ltd., £47,499; E. J. G. Morgan, Ltd., £50,778; Hawker-Smith, Ltd., £50,714; Townsend and Collins, Ltd., £46,648; Poolman (Builders), Ltd., £49,120; J. Hyde and Co., Ltd., £50,670; Circle Construction Co., Ltd., £50,916; Drury and Co., Ltd., £52,101; Clench (Contractors), Ltd., £51,000; Seivard, Ltd., £48,321; Allen Fairhead and Sons, Ltd., £51,330.
- Felling, Dur.**—Six bungalows at High Lane, Heworth, for U.D.C.: Direct Labour. Estimated cost £7,272.
- Hastings, Sussex.**—Twelve units of accommodation at Gensing Road, for B.C.: J. W. Hilder (Hastings), Ltd., 11 Canute Road, Hastings, £21,859 (recommended, subject to Ministry approval).
- Lisnaskea, Fermanagh.**—Fourteen houses at Castlebalfour, Lisnaskea (including site works and services), for R.D.C. G. W. Loughlin, engineer: Tracey Bros., Woodvale, Scribbagh, Enniskillen, £18,900 (accepted); T. B. Moore, £19,680; James Leech, £19,868.
- Middlesbrough, Yorks.**—Two houses at Thorn-tree Park, for B.C.: L. G. Goodwill, Middlesbrough, £3,632 (recommended, subject to Ministry approval).
- Portsmouth.**—Following works, for City Council: 130 houses and 10 garages at Prospect Farm, contract 1—Auriol (Builders), Ltd., Court Lane, Cosham, Portsmouth, £177,496 (recommended); H. E. Collins, Ltd., £177,847; Messrs. Faulkners, £180,126; J. V. Figgins (Builders), Ltd., £185,067; Howe and Bishop, Ltd., £187,898; John Hunt, Ltd., £190,602.
- Five houses at Toronto Road, seven at Balliol Road, two at Powerscourt Road, 11 at Beecham Road and two at Manor Road—J. C. Nicholls, Ltd., Court Lane, Cosham, Portsmouth, £7,649, £6,112, £2,445, £16,828 and £2,445, respectively; two and four at Station Road—J. Day, Portsmouth, £3,104 and £5,193, respectively (recommended).
- Romford, Essex.**—Following works, for B.C.: 12 flats in two three-storey blocks at White Hart Lane—S. R. Bryett, Ltd., Grays Farm, Church Elm Lane, Dagenham; eight three-bedroom Coward-type houses on land rear of 40-55 Essex Road—Coward Contractors, Ltd., 101 Lower Anchor Street, Chelms'ord, £14,384 (recommended, subject to Ministry approval).
- Rothbury, Northumb.**—Six bungalows and four houses at Longframlington, for R.D.C.: R. Carse and Son, Ltd., Amble.
- St. Helens, Lancs.**—Following works, for B.C. M. Ward, borough engineer: Ninety-six dwellings and two police houses, Fleet Lane, No. 1 site, Derbyshire Hill estate, contract 2147—Direct Labour.
- Ninety-six flats, Fleet Lane No. 1 site, Derbyshire Hill estate, St. Helens, contract 2148—Kearsley and Gee, Ltd., Ashton-in-Makerfield, Lancs.
- Scarborough, Yorks.**—Twenty-seven one-bedroom flats at Eastway, Eastfield, for B.C.: F. Shepherd and Son, Ltd., Blue Bridge Lane, York, £45,493 (recommended).
- Shildon, Dur.**—Sixteen houses on the Jubilee Fields estate, for U.D.C.: Direct Labour.
- Southwark.**—Ninety dwellings, laundries, pram stores, nine garages, three shops and 28 market stores at Kingston Street site, for B.C.: William Willett, Ltd., Sloane Square, London, S.W.1 (recommended, subject to Ministry approval). Estimated cost £204,223.
- Stanley, Dur.**—Ten additional houses at South Stanley, for U.D.C.: Direct Labour, £16,164.
- Sunderland, Dur.**—Following works, for B.C.: Twelve dwellings (one block of flats) at Farrington estate—Direct Labour, £16,750 (recommended, subject to Ministry approval); provision of doors to front and rear common entrances (comprising a total of 50) of various Unity flats and maisonnettes in the Lawrence Street area—Direct Labour, £1,050 (recommended).
- Swansea.**—One hundred and fifty-two flats and maisonnettes and 33 garages at Clase and Penlan housing estate, for B.C.: Stone and Co. (Bristol), Ltd., Redland Road, Bristol, £307,336.
- Tenbury, Worcs.**—Six old people's bungalows and site works and improvements to 9, 10 and 11 Trumpet Yard, for R.D.C.: F. B. May, Headbrooks, Kingston, £10,811 (recommended, subject to Ministry approval).
- Tewkesbury, Glos.**—Four houses for the Cheltenham and Gloucester Joint Water Board: H. W. Tily and Son, Ltd., 54 Winchcombe Street, Cheltenham, £7,348.
- Tottenham, Middx.**—Following, for B.C.: 24 dwellings at Talbot Close housing redevelopment—Hale Construction Co., Ltd., Markfield Road, Tottenham, N.15, £41,295; 60 dwellings at Tewkesbury estate, contract VII—Thos. McInerney and Sons, Ltd., 27 Clarendon Road, Watford, Herts., £143,571 (both recommended).
- Warmley, Glos.**—One hundred and forty-three houses and flats in traditional construction at Blackhorse Lane, Mangotsfield, for R.D.C.: J. Laing and Son, Ltd., Mill Hill, London, N.W.7. Estimated cost £224,460.
- Washington, Dur.**—Twelve houses, roads and footpaths, public conveniences, bus shelter and lock-up garages at Spout Lane, for U.D.C. T. E. Crowe, surveyor: J. and T. Robson (Builders), Ltd., Springwell, Co. Durham, £25,709.
- West Hartlepool, Dur.**—Seventy-two houses, 16 two-storey flats, and 10 bungalows at Owton Manor, for B.C. A. G. Sinclair, borough architect: G. M. Pearson and Son, Front Street, Hetton, Co. Durham.
- West Kesteven, Lincs.**—Eight bungalows at Ingoldsby, or R.D.C. J. Dean, surveyor: Harwood Bros., Corby Glen, near Grantham, £11,149.
- Weston-super-Mare, Som.**—Sixty-five dwellings in traditional construction at Bournville housing estate, for B.C. Reginald Gallannaugh, architect, 9 Richmond Street, Weston-super-Mare; Banks, Wood and Partners, quantity surveyors, 41 Alma Road, Clifton, Bristol, 8; John Laing and Son, Ltd., 16 Arlington Villas, Clifton, Bristol, 8, £109,432. Work to commence February.

PLANT AND MECHANICAL TRANSPORT

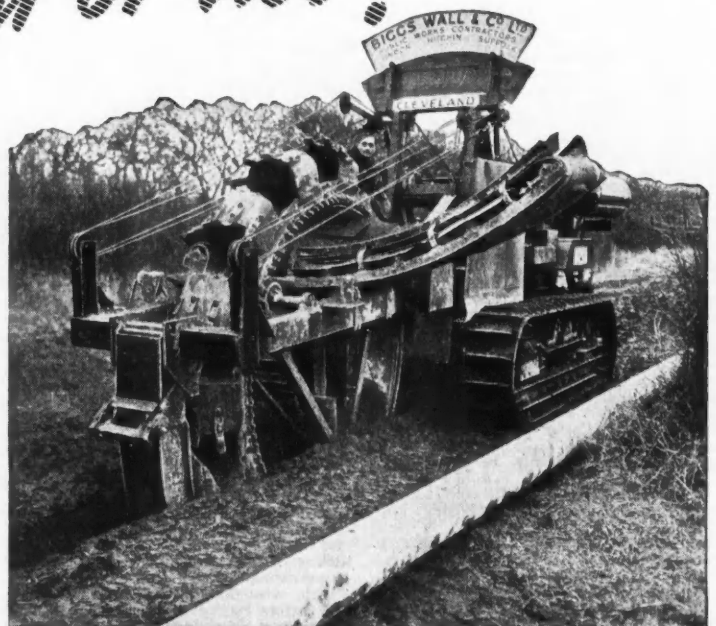
- Bangor, Caerns.**—Supply of one Austin 304 3-ton tipper lorry, for B.C.: Jones Bros. (Bangor), Ltd., High Street, Bangor, £966 (recommended).
- Cardiff.**—Supply of scaffolding, for City Council: Scaffolding (G.B.), Ltd., Sloper Road, Cardiff, £877 (recommended).
- Cheltenham, Glos.**—Supply of a refuse vehicle, for R.D.C.: Shelvoke and Drewry, Ltd., Letchworth, Herts., £2,855.
- Colne, Lancs.**—Purchase of four trailers, for B.C.: Jerry Wadsworth and Son, Ltd., Ripponden (recommended).
- Edmonton, Middx.**—Supply of bulldozer, for B.C.: Thomas W. Ward, Ltd., Brettenham

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Full details from U.K. Manufacturers and Distributors:

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House, Lancaster Place, London, W.C.2, £2,530.

Hastings, Sussex.—Supply of the following, for B.C.: One Ford Thames 5cwt. van—J. Hollingsworth, Ltd., Braybrook Road, Hastings, £377; G.F.X. footpath roller—Aveling-Barford, Ltd., Grantham, Lincs., £1,524 (recommended).

Ipswich.—Supply of two Saga mark 1 power winches with Petter AVA 1 diesel engines and fitted with extra jacks and castors, for B.C.: British Hoist and Crane Co., Ltd., 21 St. Barnabas Street, London, S.W.1, £665.

Kendal, Westmor.—Supply of two Ford Diesel 4-ton lorries, with three-way tipper, for B.C.: Graghill, Ltd., 113 Stricklandgate, Kendal, £1,930 (recommended).

Rochford, Essex.—Supply of two Karrier 25 cu. yd. dual tip refuse collection vehicles with double cabs and fitted with Rootes diesel engines, for R.D.C.: Holmes and Smith, Ltd., 459-461 London Road, West-cliff-on-Sea, Essex, £5,165 (accepted); Romford Commercial Cars, £5,193; Adams Garage (Aylesbury), Ltd., £5,300; Church Road Motors (Southend-on-Sea), Ltd., £5,310; Commercial Vehicle Repairs (Essex), Ltd., £5,493; Clifford and Co., £5,637.

Sunderland, Dur.—Supply of six 12 cu. yd. diesel powered refuse collection vehicles fitted with all-steel body and double cab, for B.C.: Karrier Motors, Ltd., Luton. Estimated cost £9,870.

PLAYING FIELDS, PARKS, ETC.

Carlisle, Cumb.—Extension of playground at Upperby Primary School, for City Council: Border Engineering Contractors, Ltd., Whitehaven, £488 (recommended).

Southwark.—Garden works at Penrose House on site of Surrey Gardens Memorial Hall, Penrose Street, for B.C.: St. Mary's (Contractors), Ltd., 273 Sussex Way, London, N.19, £927 (recommended, subject to Ministry approval); Knowles and Weller, Ltd., £1,653; Gillian and Co., £1,867.

RAILWAY ENGINEERING

British Railways.—Following contracts placed: Scottish Region:
Three mobile cranes—R. H. Neal and Co., Ltd., London.
Supply of new steel superstructure, under-bridge 152, Auchinleck—Bone, Connell and Baxters, Ltd., Glasgow.

Glasgow suburban electrification: Reconstruction of overbridge 99, Hallhill Road, Shettleston—James Miller and Partners, Edinburgh.

Renewal of superstructure, overbridge 75, Blair Road, Blairhill—Kinnear, Moodie and Co., Ltd., Glasgow.

Low pressure hot water heating installation, Hyndland rolling stock maintenance depot—Underhill Heating Engineers, Ltd., Glasgow.

ROADS, BRIDGES AND SITE WORKS

Arnold, Notts.—Making-up of part of Revesby Road (approximately 400ft.), for U.D.C. L. H. Roxby, engineer and surveyor: Mapperley Construction Co., Kimberley Road, Nuthall, Notts., £2,135. Work to commence Feb.

Aireborough, Yorks.—Making-up of Swin-car Avenue, Yeadon (approximate length 1,000ft. with prestressed concrete flagged footpath, pitched carriageway surfaced with bituminous macadam, surface water drainage and other ancillary works, for U.D.C. F. Tunnell, engineer and surveyor: Pavior Construction Co., 17 Saltaire Road, Shipley. Work about to commence.

Berkshire.—London-Bristol trunk road 9 (A.4), major improvement at Halfway and special repairs at Denford, for C.C., comprising earthworks, carriageway realignment and widening, footway, surface water drainage, accommodation and ancillary works, and the construction of a cattle creep under the highway at Halfway. The lengths of the works are 1,050yd. and 2,600yd., approximately. K. P. Brow, county surveyor: Amey's Asphalt Co., Ltd., Sutton Courtenay, Abingdon. Work to commence February 15.

Blackpool, Lancs.—Surface draining and formation of eight private streets in the borough (approximate length 600 lin. yd.), for B.C. Arthur Hamilton, borough surveyor: H. F. Fox and Co. (Contractors), Ltd., Holyoake Avenue, Blackpool, £6,305.

Bridlington, Yorks.—Making-up of Fourth Avenue, for B.C.: Direct Labour. Estimated cost £3,792.

Bury St. Edmunds, Suffolk.—Advance site works at Hollow Road industrial estate, for B.C.: Tilbury Construction Co., Ltd., Ruscombe Works, Twyford, Reading, £21,722 (recommended).

Cardiff.—Following works, for City Council: Advance preparation works for housing de-

velopment (including off-site sewerage works and the improvement of Pentrebbane Road) at land south of Pentrebbane Road—John Morgan (Builders), Ltd., 14 Cathedral Road, Cardiff, £173,074 (recommended).

Provision of access roads for old people's dwellings at Elfed Green and Amethyst Road, Fairwater—Direct Labour (recommended). Estimated cost £1,800.

Carlisle, Cumb.—Construction of bridge in connection with extensions to Carlisle Technical College, for City Council: John Laing and Son, Ltd., Dalston Road, Carlisle, £3,368.

Deal, Kent.—Widening and improvement of part of Cross Road, for B.C.: Direct Labour, £3,520 (recommended, subject to Ministry approval).

Enfield, Middx.—Worlds End Lane, part I housing site, road works and drainage, part II road improvement, for B.C.: Carriageways, Ltd., 91 Fox Lane, N.13, £42,329 (recommended).

Felixstowe, Suffolk.—Making-up of part of Glenfield Avenue, Dellwood Avenue, part of Fleetwood Avenue and Lansdowne Road, for U.D.C. The works comprise surface water sewers, regulating and consolidating existing hardcore foundations, laying tarred macadam surfacing and in-situ concrete paving, and incidental works. A. H. Pavitt, engineer and surveyor: Roadworks (1952), Ltd., 57-61 Commercial Road, Ipswich, £15,613 (accepted); May Gurney and Co., Ltd., £16,122; East Anglian Roadstone and Transport Co., Ltd., £16,376; Rogers Bros., Ltd., £16,971; Edward J. Edwards, Ltd., £18,599; J. Nunn and Son, £21,053. Work commencing February-March.

Greenhithe, Kent.—Repairs to roadway in tar-macadam and cold bitumen spraying and gridding running from entrance to sports field down to quay and on to High Street, for Thames Nautical Training College, H.M.S. Worcester: Hodsons, Ltd., 17 Wrotham Road, Gravesend.

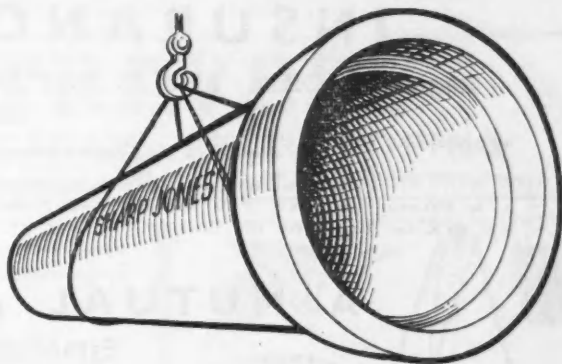
Kendal, Westmor.—Renewal of defective steel-work and fixing new decking to Romney Bridge, for B.C.: I. Jackson and Sons, Ltd., Duke Street, Lancaster, £2,400 (recommended, subject to Ministry approval).

Kent.—Lengthening Brands Hatch race track, near Farningham, from 1.24 to 2.6 miles, for Brands Hatch Circuit, Ltd.: Amalgamated Asphalt Co., Ltd., Asphalt House, Palace Street, London, S.W.1.

Lexden and Winstree, Essex.—Construction of site works for the erection garages at West

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- Bergholt, Stanway, Boxted, Tiptree, Fingringhoe, Birch and Bedham, for R.D.C.: T. J. Evers, Ltd., New Road, Tiptree, £3,526 (recommended, subject to Ministry approval).
- Loughborough, Leics.**—Reconstruction of overline bridge G.C.337 on trunk road A.6 at Loughborough, consisting of a single 70ft. skew steel span 40ft. wide between parapets, for the Ministry of Transport. A. M. Hamilton, consulting engineer, 17 Dartmouth Street, S.W.1: Wellerman Bros., Ltd., Dun Street, Sheffield, 3.
- Middlesbrough, Yorks.**—Supply and laying of (a) approximately 18,000 sq. yd. of 2in. asphalt base course and 1½in. asphalt wearing course (including tack coat and pre-coated chips) at a cost of 14s. 2d. per sq. yd., and (b) approximately 16,000 sq. yd. of the like materials incorporating red aggregate in the wearing course and red chips, at a cost of 14s. 10d. per sq. yd., in connection with the Longlands Road reconstruction, for B.C.: Limmer and Trinidad Lake Asphalt Co., Ltd., Wilson Street, Thornaby-on-Tees.
- Portsmouth.**—Construction of an access road from Havant Street to Wickham Street, for City Council: Direct Labour (recommended). Estimated cost £2,500.
- Romford, Essex.**—Construction of road and sewer works involved in the development of land for housing purposes at the rear of 16/54 Essex Road, for B.C.: Roads and Public Works, Ltd., 180 Clapham Road, London, S.W.9, £6,157 (recommended).
- Saltash, Corn.**—Roads and sewers at Grenfell Avenue, fifth extension, for B.C.: Pearn and Co. (Contractors), Ltd., Windsor Villas, Plymouth, £5,555 (recommended).
- Sunderland, Dur.**—Following works, for B.C.: Construction of footpaths at Grindon village estate, phase 3—T. Lavelle, Sunderland, £1,713 (recommended, subject to Ministry approval).
Construction of roads, sewers and ancillary works in the East Cross Street, redevelopment area—T. Lavelle, Old Penshaw, Co. Durham, £24,149.
- Tottenham, Middx.**—Reconstruction of The Hale, between Park View Road and Hale Road, for B.C.: Bryan Ruddock and Sons, Ltd., 15 The Meadow, Cuffley, Herts., £5,906.
- West Hartlepool, Dur.**—Construction of roads and sewers on a housing site at Farndale Road, for B.C. J. S. Miles, borough engineer: Direct Labour, £4,500.
- Windsor, Berks.**—Making-up part of the road at the junction of Recreation Lane and St. Luke's Road, Old Windsor, for R.D.C.: J. Farr, Erskineville, North Park, Iver, Bucks., £329 (recommended).

SEWERAGE, SEWAGE AND REFUSE DISPOSAL

- Cricklade and Wootton Bassett, Wilts.**—Following works, for R.D.C. J. C. Grindley, engineer and surveyor: Laying about 510yd. of asbestos-cement and about 30yd. of spun-iron 6in. diameter pipes at Calcutt Street to sewage works, Cricklade: Surface Maintenance Services, Ltd., Durham House, 124 Old Christchurch Road, Bournemouth, Hants., £2,034; erection of three above-ground concrete block sewage pumping stations at West Mill, The Hatchetts and Calcutt Street, Cricklade: R. and H. Giles Bros., 48 High Street, Cricklade, £1,963.
- Fareham, Hants.**—West End surface water drainage scheme, stage I, for U.D.C., comprising construction of approximately 540yd. of concrete sewer in sizes up to 36in. diameter, together with manholes and ancillary works: Surface Maintenance Services, Ltd., 124 Old Christchurch Road, Bournemouth, £10,064 (subject to Ministry approval).
- Fylde, Lancs.**—Construction of a sewage pumping station and the laying of approximately 1,150yd. of 6in. spun-iron rising main and 25yd. of steel pipes for stream crossing, together with ancillary works, at Clifton Village, for R.D.C. E. W. Fryer, engineer and surveyor: A. E. Yates, Ltd., Herbert Street, Horwich, £5,262 (accepted); C. V. Buchan and Co., Ltd., £7,203; J. C. Shields, Ltd., £6,305; H. J. Fox and Co. (Contractors), Ltd., £6,092; J. Mallinson, £8,335; A. Brett (Contractors), Ltd., £6,259; Brown and Jackson, Ltd., £6,737; James Bennett (Contractors), Ltd., £7,851; D. J. Ryan and Sons, Ltd., £6,820; Lane Bros. (Builders), Ltd., £6,088; U.K. Construction and Engineering Co., Ltd., £7,437; J. Hardman, £7,515.
- Kingsclere and Whitchurch, Hants.**—Laying of a new sewer in Micheldever Road, Whitchurch, and a new pumping main, for R.D.C.: Southern Counties Construction

Co., Ltd., 204 London Road, Waterlooville, Portsmouth, £7,896.

Malmesbury, Wilts.—Construction of about 3,400 lin. yd. of sewers, from 4in. up to 12in. diameter, 350 lin. yd. of 3in. diameter rising main, and a sewage disposal works at Hullavington, for R.D.C. Harvey, McGill and Hayes, consulting engineers, 38 Market Place, Chippenham: Ernest Ireland, Ltd., Bath, £34,374. Work commencing in four to six weeks' time.

Manchester.—Following works at Davyhulme sewage disposal works, for City Council: Internal pipework and centrifugal pumps for the secondary sludge pumping station—Whitehead and Poole, Ltd., Radcliffe, Lancs.; group starter boards for secondary sludge treatment plant—Electric Construction Co., Ltd., Wolverhampton; investigation of proposed site of the aeration plant and final settlement tanks—Cementation Co., Ltd., Doncaster.

Division of an L sewer on behalf of the College of Science and Technology—J. F. Donelon and Co., Ltd., Manchester.

Neath, Glam.—Laying of approximately 225yd. of 12in. diameter concrete pipes, together with other incidental works at Cimla Road relief sewer, for B.C.: Ware Construction Co., Ltd., 125 Pembroke Road, Bristol, 8. Work to commence February.

Prestwich, Lancs.—Construction of a treatment plant for Simister sewerage and sewage disposal, from approximately 200 houses; two ejector stations, approximately 480 lin. yd. of 4in. diameter asbestos-cement rising main; 800 lin. yd. of 9in. and 6in. diameter sewer and the conversion of 28 pail closets to water closets, for B.C. J. Theo. Kilner, borough engineer: McKeown and Rydout, Ltd., 62 George Street, Manchester, 1 (subject to Ministry approval).

Sunderland.—Provision of pump house and pump and rising main required for diversion of sewage from the North and South Bents public conveniences via the Seaburn disintegrator plant into Seaburn outfall, for B.C.: Direct Labour (recommended). Estimated cost £1,423 and £380, respectively.

STREET LIGHTING

Bristol.—Supply of capacitors for year 1960, for City Council: Abacus Engineering Co., Ltd., Russell Chambers, King Street, Nottingham.

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Colne, Lancs.—Conversion of electric (sodium vapour) lighting of 481 lamps, for B.C.: Direct Labour (recommended). Estimated cost £18,943.

Deal, Kent.—Removal of 43 gas lamps and erection of 63 electric units at The Promenade from the Queens Hotel to Sandown Castle, for B.C.: South Eastern Electricity Board, £4,750 (recommended, subject to Ministry approval).

Enfield, Middx.—Street lighting in London Road and Southbury Road, for B.C.: Supply of lanterns—A.E.I. Lamp and Lighting Co., Ltd., 132 Long Acre, London, W.C.2, £1,039; supply of columns—Stanton Iron Works Co., Ltd., 4 Norfolk Street, London, W.C.2, £2,149.

Hyde, Ches.—Provision and erection of 155 class B street lighting columns, together with lanterns and ancillary gear, for B.C.: Cohen Bros. (Electrical), Ltd., Electric House, 11 King Edward Buildings, Bury Old Road, Manchester, 8. Work to commence April.

Southwark.—Supply and installation of street lighting equipment for third stage of street lighting modernisation scheme, for B.C.: Erecon, Ltd., Great Amwell, Ware, Herts., £3,375 (recommended).

Sunderland, Dur.—Supply of following, for B.C.: Twenty-one AVE.3DNN 25ft. columns with single and double brackets at prices ranging from £17 to £17 15s. 9d. each, dependent upon the type of bracket—Concrete Utilities, Ltd., Albert Square, Manchester; 37 Lucerna tapered circular aluminium-alloy street lighting columns with post top fittings—Revo Electric Co., Ltd., Tipton, Staffs., £785 (both recommended).

GOVERNMENT CONTRACTS

Air Ministry.—Contracts to the value of £500 or over for the week ended Jan. 8:

Building work: Digby, Lincs.—H. J. Gleeson (Contractors), Ltd., 816-822 Chesterfield Road, Sheffield, 8, Yorks.; Wattisham, Suffolk—Haymills (Contractors), Ltd., Hanger Green, Western Avenue, London, W.5.

Supply and installation of carbon-dioxide storage tank and pump: Cardington, Beds.—The Distillers Co., Ltd., Mayfair Place, Piccadilly, London, W.1.

Ministry of Works.—Contracts placed for two weeks ended Jan. 2:

Devon: Crownhill, Plymouth—erection of telephone exchange extension—Carkeek and Sons, Ltd., Gilwell Street, Plymouth.

Durham: jointly occupied building, Elvet House, Hallgarth Street, Durham—repairs to roof and fixing new patent glazing—Hinscliff

Hewitt and Sons, Ltd., Station Works, Haswell.

Essex: H.M. Borstal Institution, Bullwood, near Rayleigh—chain link fencing—Boulton and Paul, Ltd., Fencing and Ironwork Development, Riverside Works, Norwich, Norfolk.

Glamorgan: joint office building, Prudential Buildings, Kingsway, Cardiff—internal decorations—Ian Williams and Co., Ltd., Wroughton Place, Ely, Cardiff.

Kent: Telephone Exchange, Milton Road, Gravesend—erection—R. Durnell and Sons, Ltd., Rectory Lane, Brasted, near Westerham.

Lancashire: Government Buildings, Cop Lane, Penwortham—internal decorations—John Pilkington, 134 Holland Street, Bolton.

London: H.M. Tower of London, E.C.3—resurfacing parade ground, etc.—Stanley Lucas (Slough), Ltd., Alexandra Road, Slough, Bucks.; Royal Naval College, Greenwich, S.E.10—installation of underground cables, etc.—Troughton and Young, Imperial Court, Basil Street, S.W.3; War Office, Whitehall, S.W.1—dismantling of passenger lift and erection of one passenger lift—Express Lift Co., Ltd., Abbey Works, Northampton; Somerset House, W.C.2—erection of one passenger lift—Keighley Lifts, Ltd., Dalton Lane, Keighley, Yorks.; Victoria House, Kingsway, W.C.2—plaster repairs and internal decorations—South London Decorators, Ltd., 9-11 Streatham High Road, S.W.16; Government Office Building, Royal London House, Finsbury Square, E.C.2—adaptations—E. J. Lacy and Co., Ltd., Steele Road, N.W.10; new Government offices, Whitehall Gardens, S.W.1—layout of embankment gardens, stage II—John Mowlem and Co., Ltd., 91 Ebury Bridge Road, S.W.1; Houses of Parliament, S.W.1—erection of one passenger lift—Evans Lifts, Ltd., Abbey Lane, Leicester; heating installation, etc.—Hinton Jones (Engineers), Ltd., 3-4 Clement's Inn, Strand, W.C.2; Foreign Office, 2-18 Carlton Terrace, S.W.1—repairs—Clemens Bros., Ltd., 77 Derby Road, Forest Gate, E.7; Paddington District Office, London Street, W.2—rearrangement of letter office—T. G. Waterman, Ltd., 187-9 Whitechapel Road, E.1; Public Trustee Office, 24 Kingsway, W.C.2—internal decorations—South London Decorators, Ltd., 9-11 Streatham High Road, S.W.16; joint office building, Bush House, S.W. Wing, W.C.2—lavatory accommodation—Sykes and Son, Ltd., 8 Essex Street, Strand, W.C.2.

Northamptonshire: Telephone Exchange, St. Giles Street, Northampton—erection—Bernard Sunley and Sons, Ltd., 25 Berkeley Square, W.1.

Pembrokeshire: Ministry of Agriculture, Fisheries and Food, Barn Street, Haverford-

west—alterations and adaptations—W. H. Fortune and Son, Bron Wydd, Portfield, Haverfordwest.

Warwickshire: Post Office Factory and Supplies, Fordrough Lane, Birmingham—internal and external decorations—C. Bryant and Son, Ltd., Whitmore Road, Small Heath, Birmingham, 10.

Post Office.—Contracts for duct laying, etc., works to the value of £500 and over placed during the week ended Jan. 9:

Hugh Brown (Engineers), Ltd., Chart Road, Ashford, Kent; C.D.L. Construction Co., Ltd., Church Road, Egham, Surrey; H. Coary, 26 Irish Street, Dungannon, Co. Tyrone; Cull Contractors, 7a Jonesboro' Street, Belfast, 5; W. A. Gale, Ltd., 38 Ruthven Road, Litherland, Liverpool, 21; J. Galvin and Sons, 53 Parkside Way, Harrow, Middx.; George H. Graham (Contractors), Ltd., District Bank Chambers, Market Street, Huddersfield, Yorks.; The Lenton Civil Engineering Co., 38 Cromwell Road, Beeston, Nottingham; McNicholas Construction Co., Ltd., 31a Cricklewood Broadway, London, N.W.2; J. Murphy and Sons, Ltd., 43 Charteris Road, Finsbury Park, London, N.4; The North Midland Construction Co., Ltd., Portland Works, Daybrook, Nottingham; The Norwest Construction Co., Ltd., Litherland, Liverpool, 21; P. J. Parrott and Co., Ltd., Main Street, Methley, Leeds, Yorks.; E. M. Smith and Co., Birles Road, Orford, Warrington, Lancs.; David Stewart and Sons, 5 Main Street, Luthermuir, Laurencekirk, Kincardines; D. J. Sullivan (Bristol), Ltd., 16 Burlington Road, Redland, Bristol, 6; Alexander Thomson and Co. (London), Ltd., 45a Kensington High Street, London, W.8.

War Department.—Contracts placed for the week ended Jan. 8:

Essex (Shoeburyness): fencing—Boulton and Paul, Ltd., Norwich.

Hampshire (Aldershot): building—Sherfields (Farnham), Ltd., Farnham.

Merionethshire (Tonfanau): building—Watkin Jones and Sons, Ltd., Bangor.

Midlothian (Edinburgh): painting and decorating—A. T. Rolland, Ltd., Dunfermline.

Northumberland (Redesdale): roadwork—H. V. Smith and Co., Ltd., Edinburgh.

Nottinghamshire (Chilwell): painting—T. and S. Saxton, Mansfield Woodhouse.

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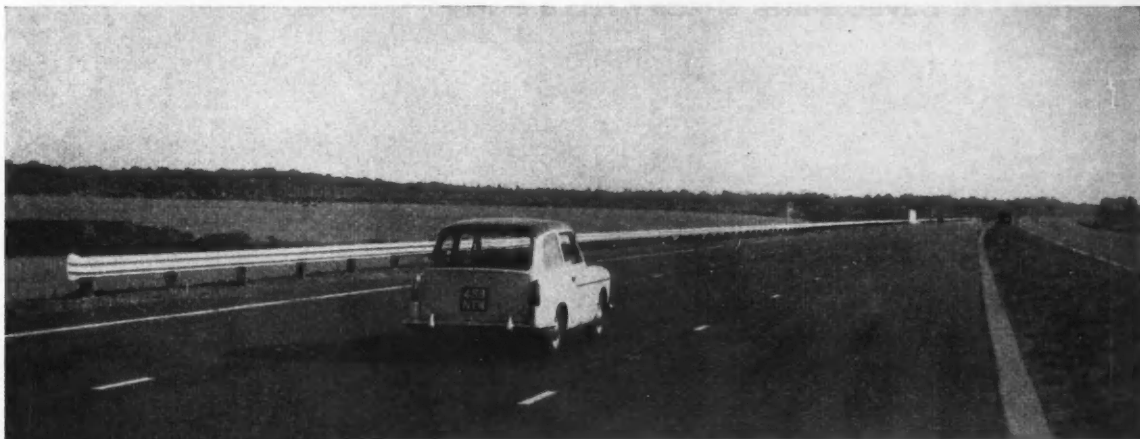
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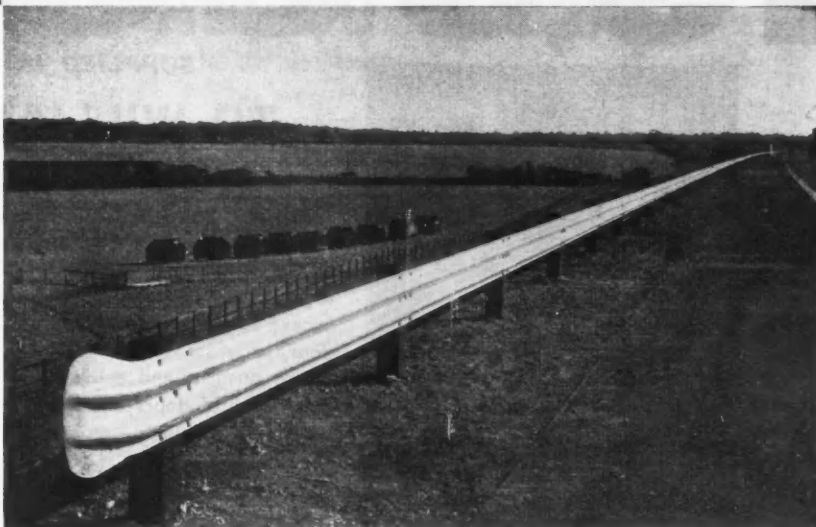
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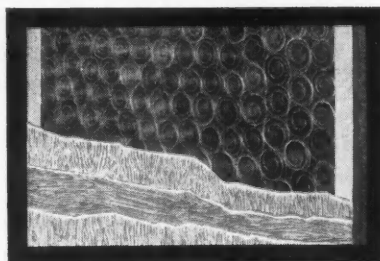
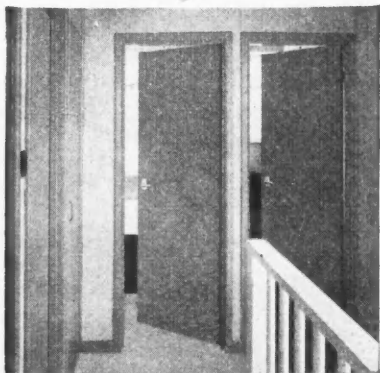
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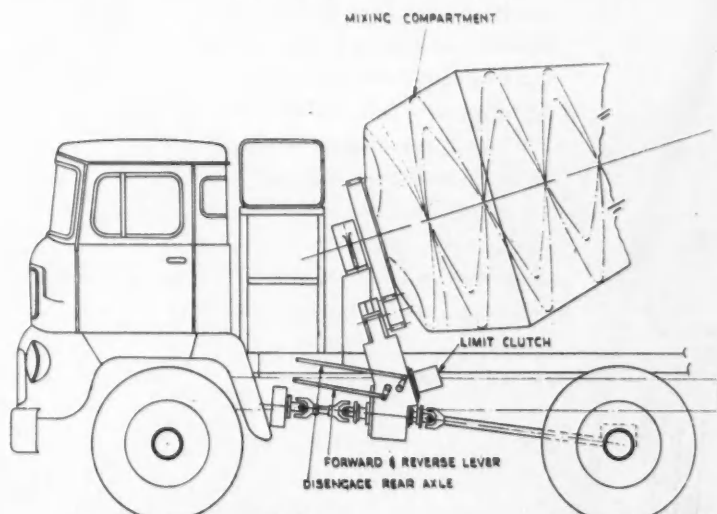
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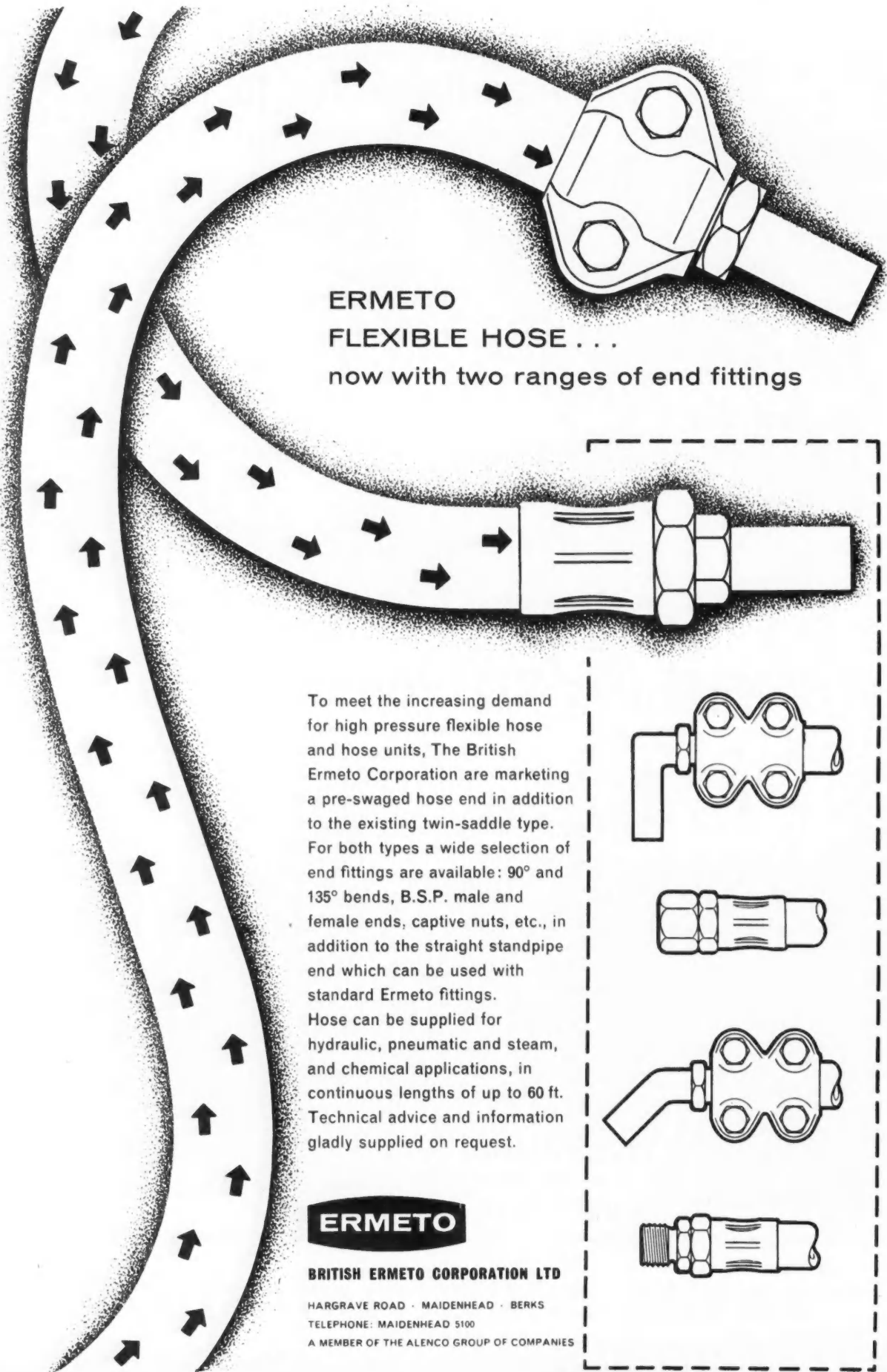
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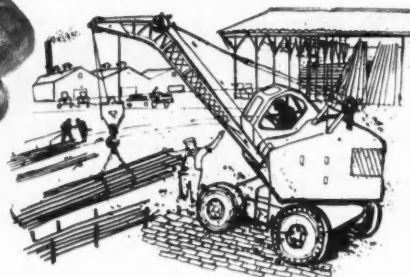
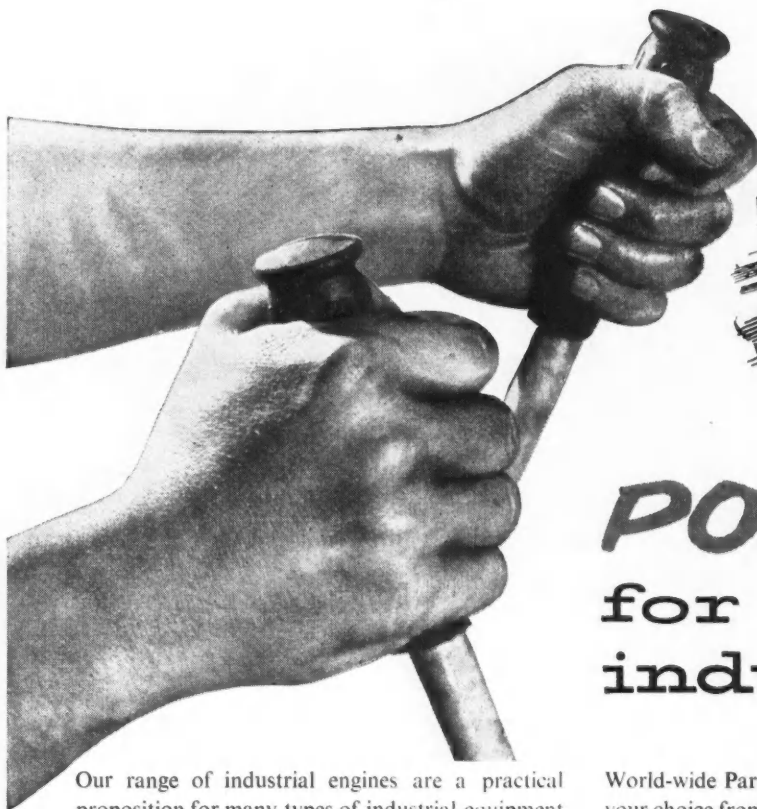
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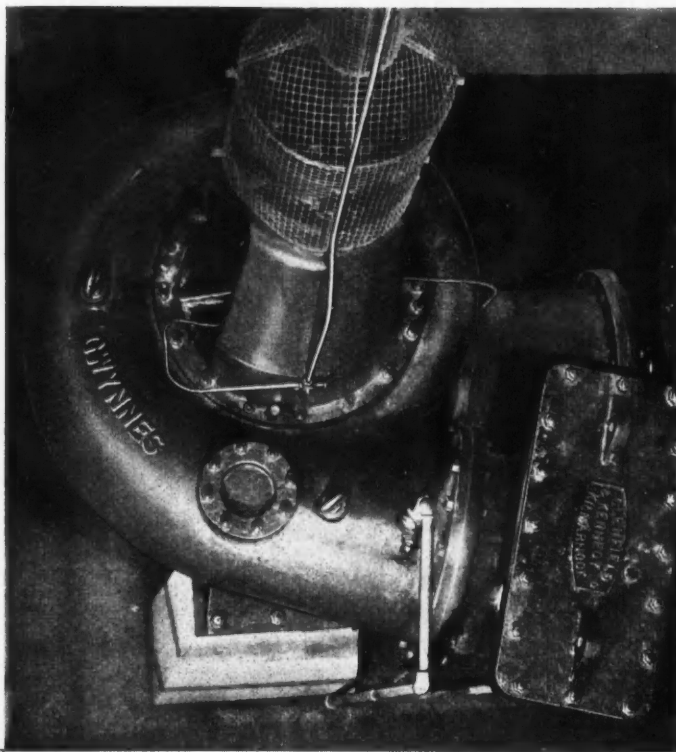
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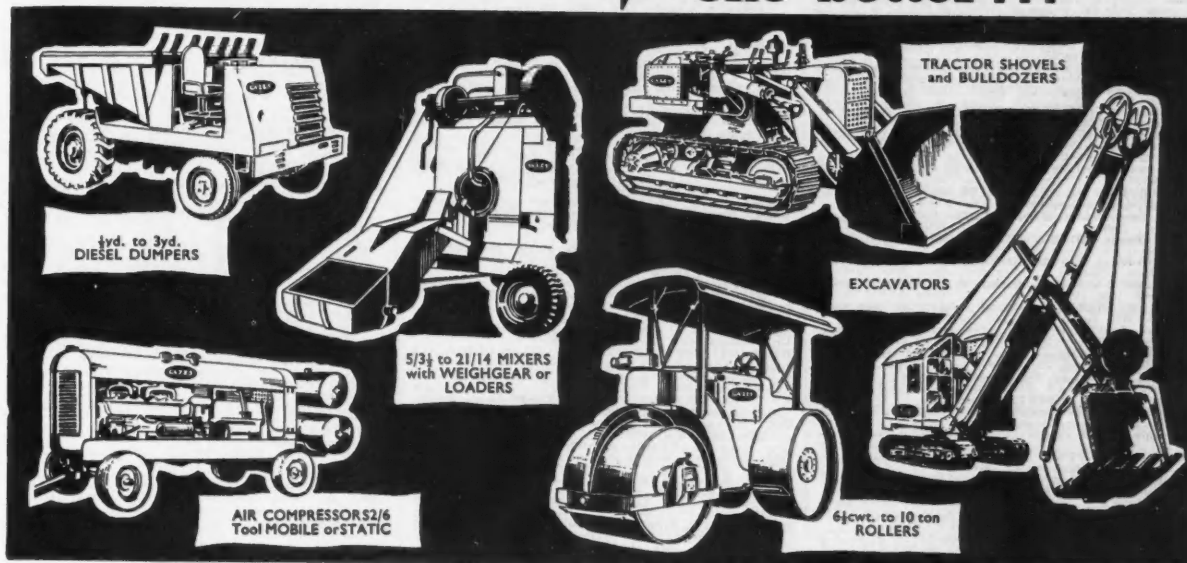
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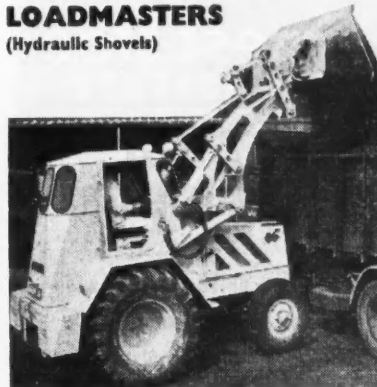
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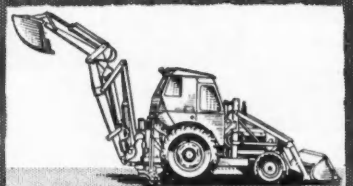
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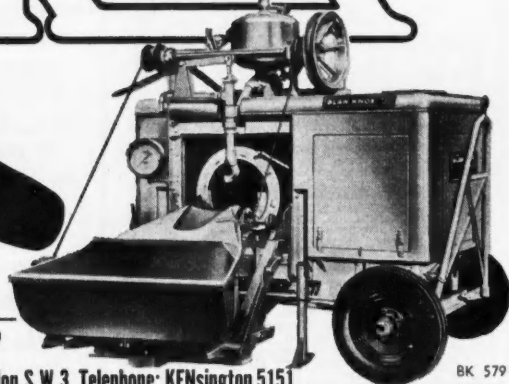
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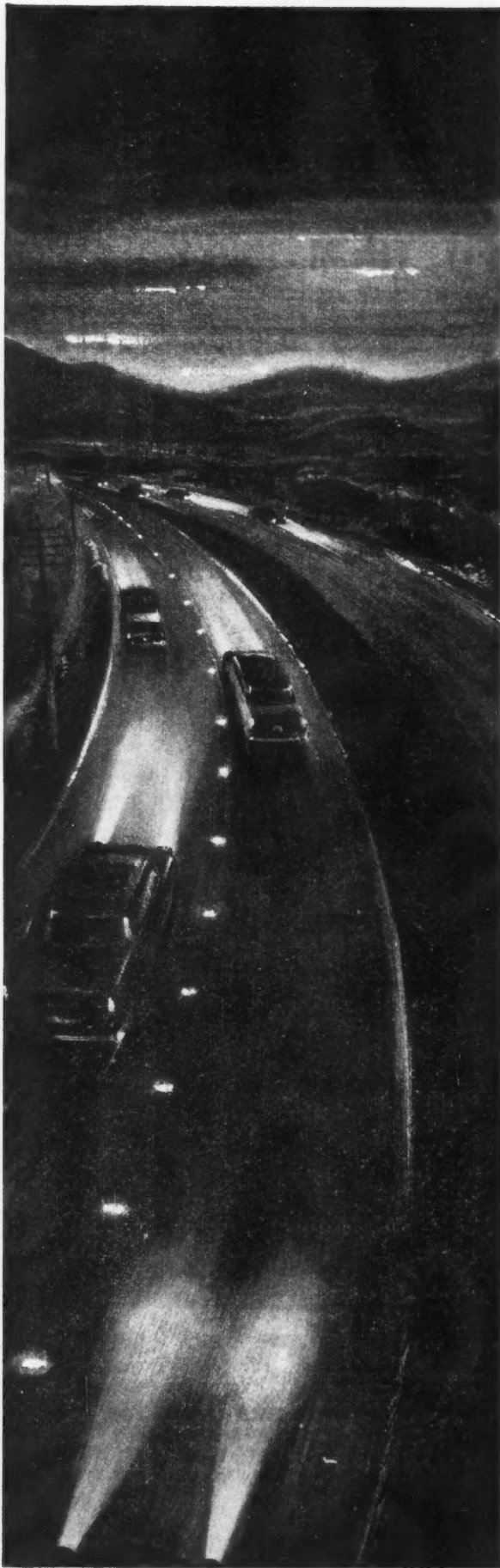
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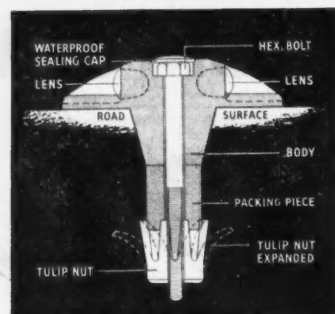
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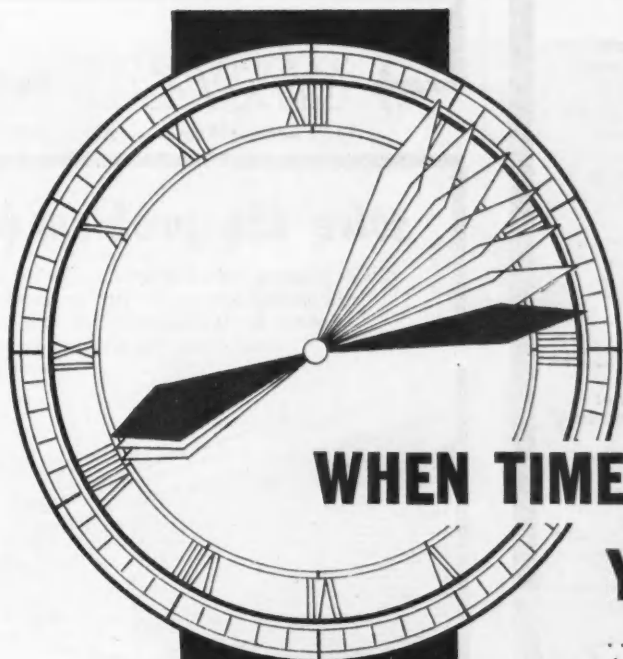
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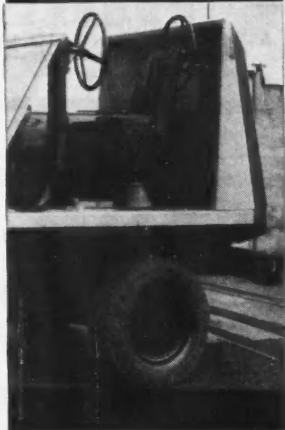


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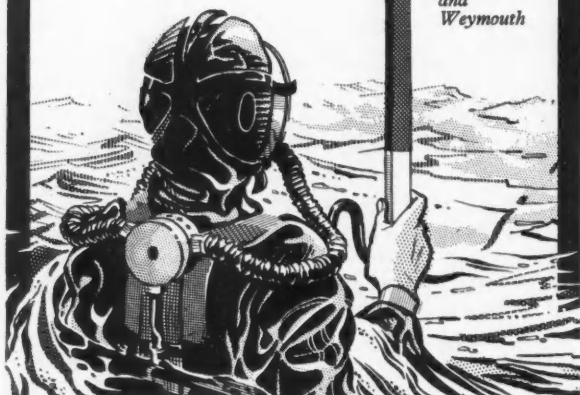
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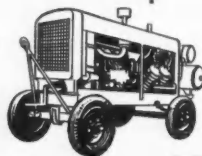
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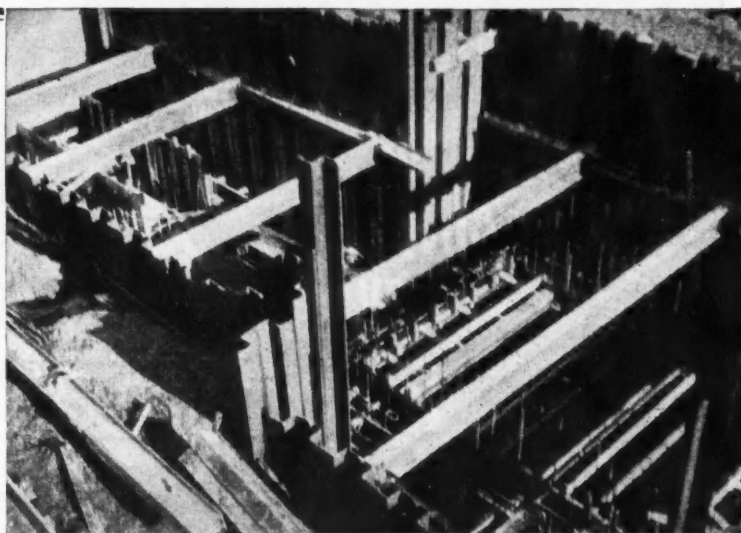
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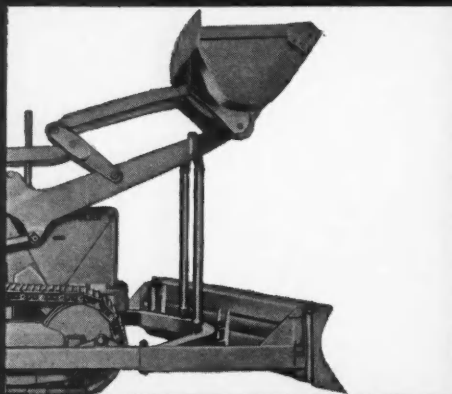
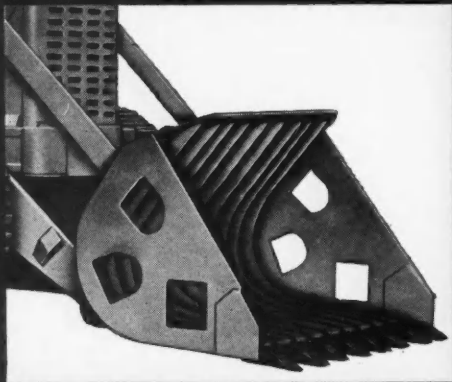
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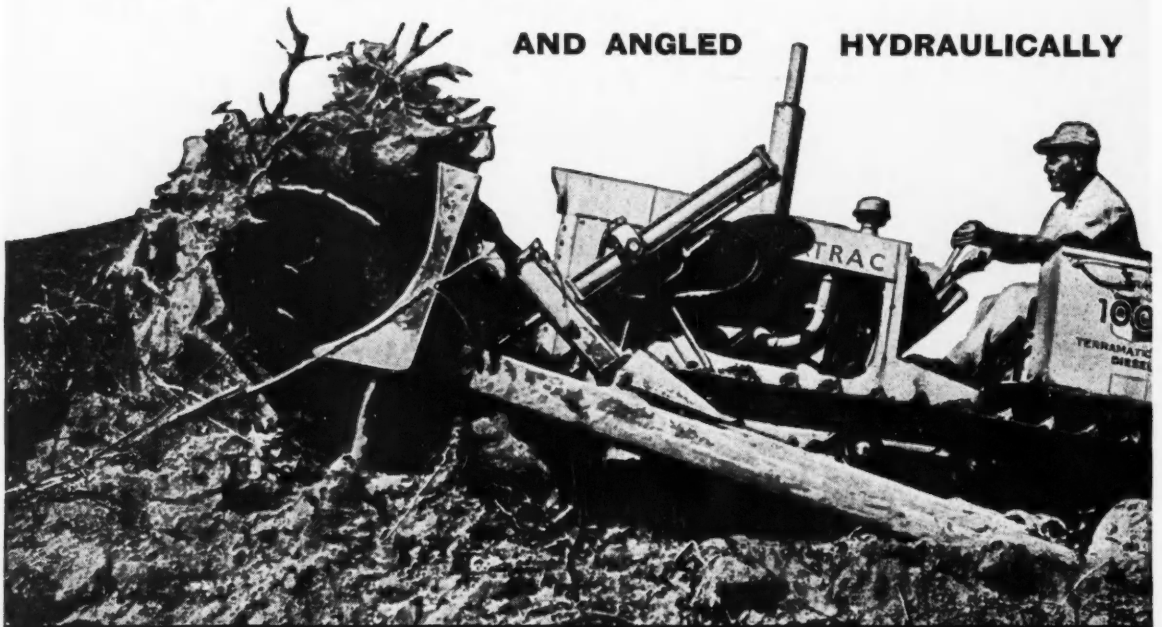
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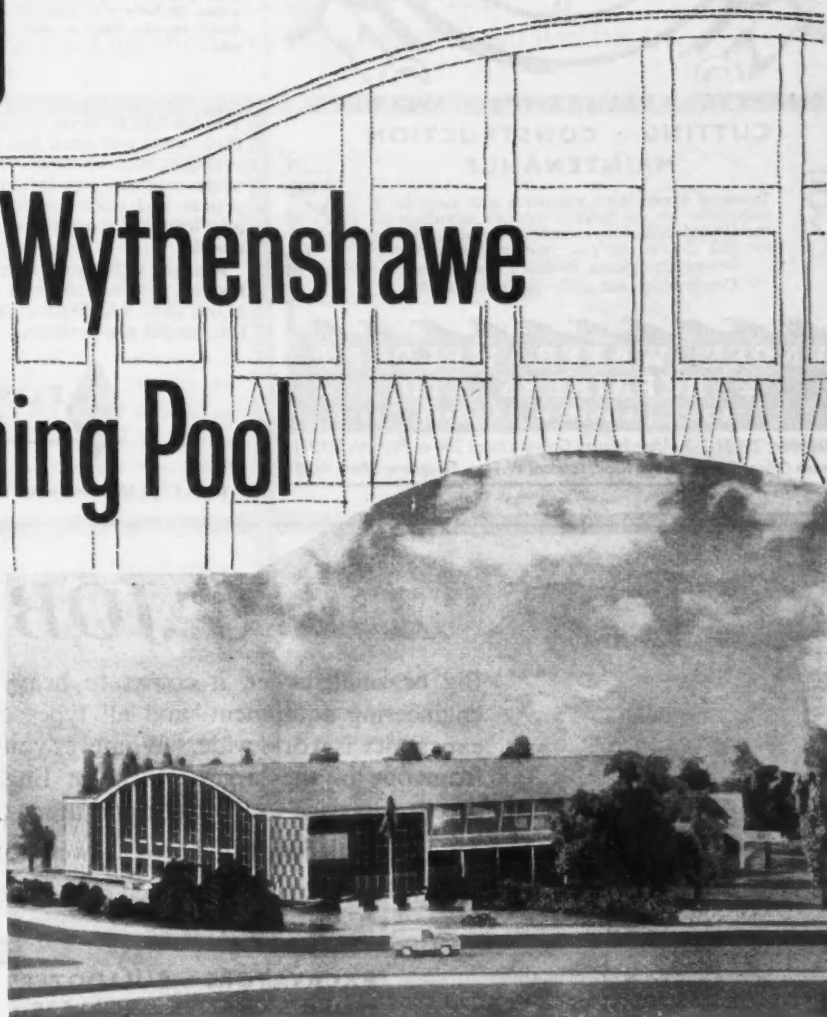
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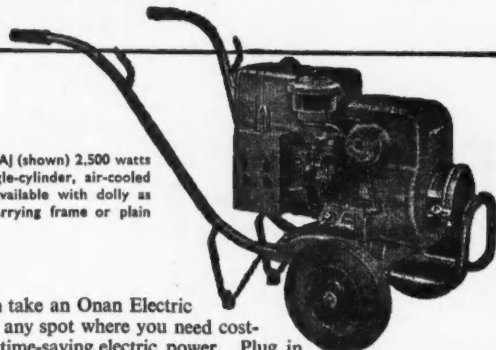
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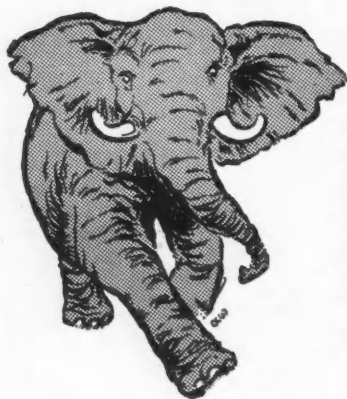


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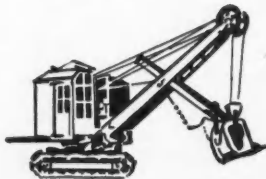
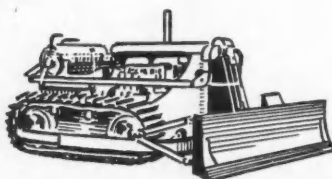
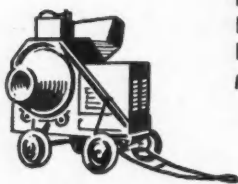
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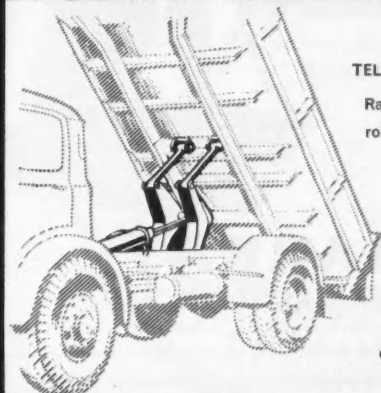
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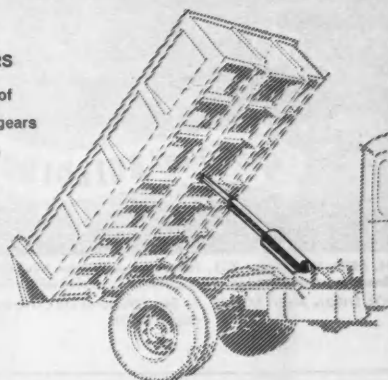
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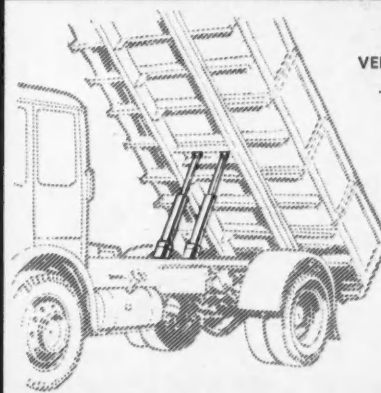
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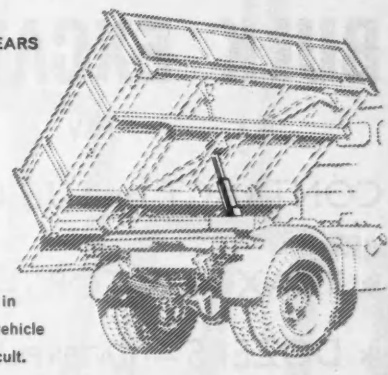
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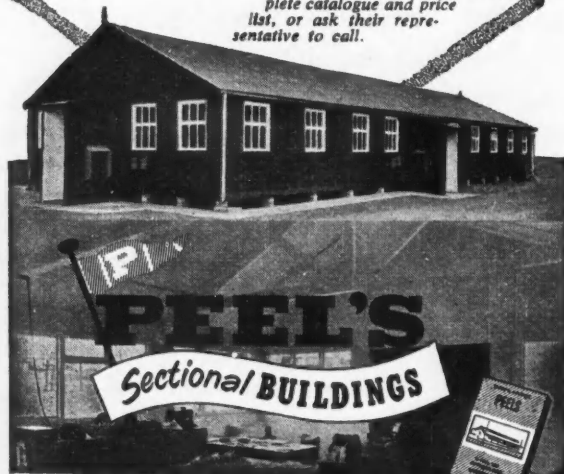
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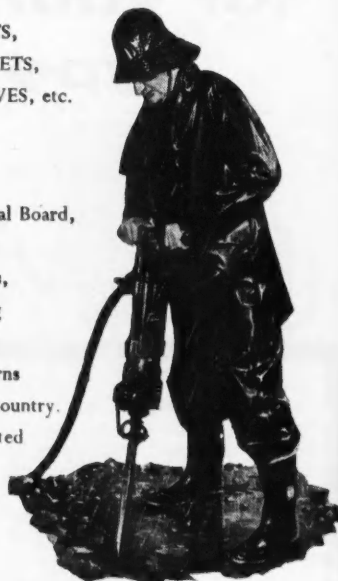
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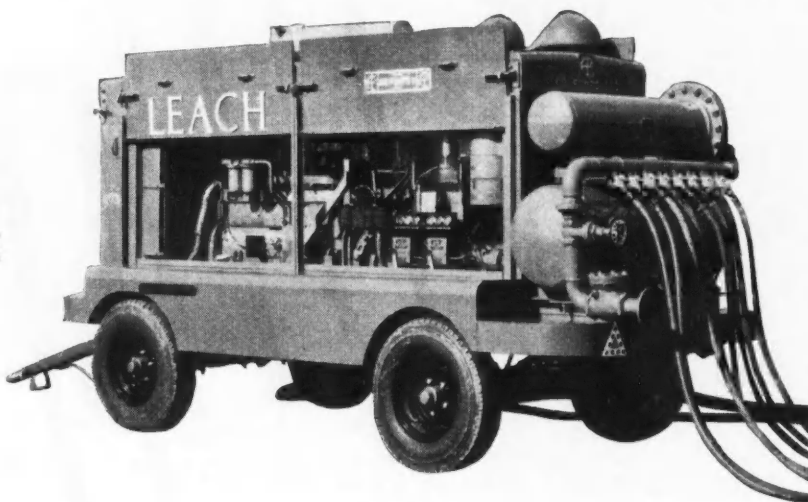
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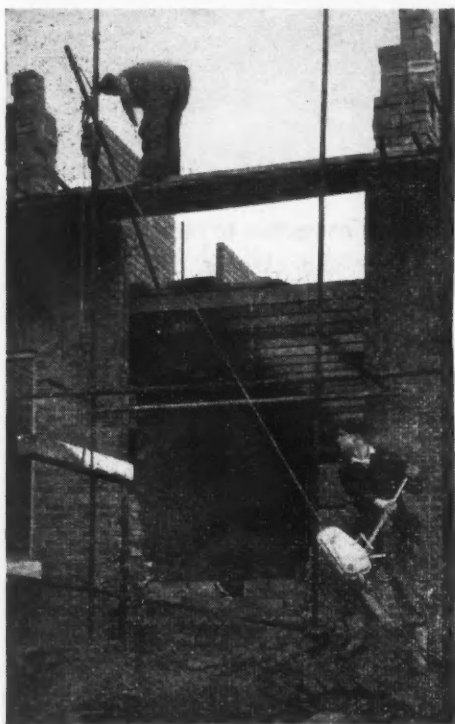
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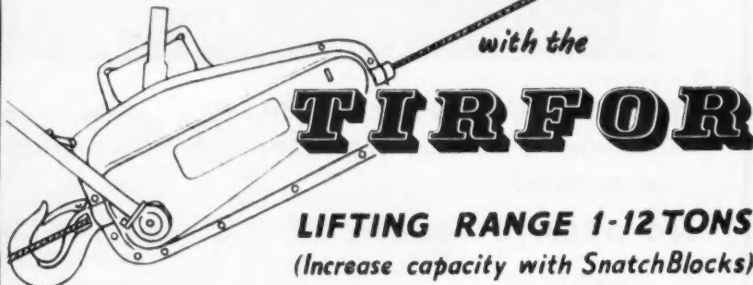
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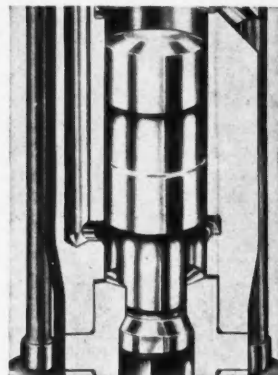
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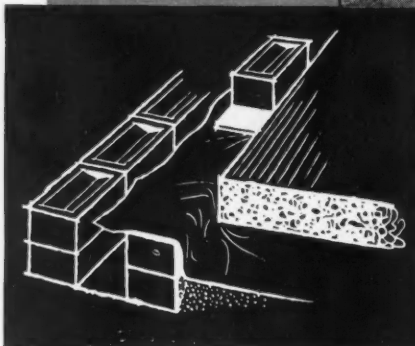
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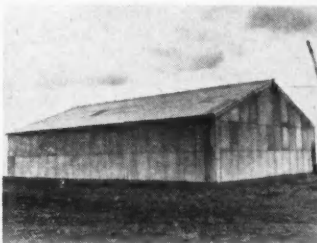
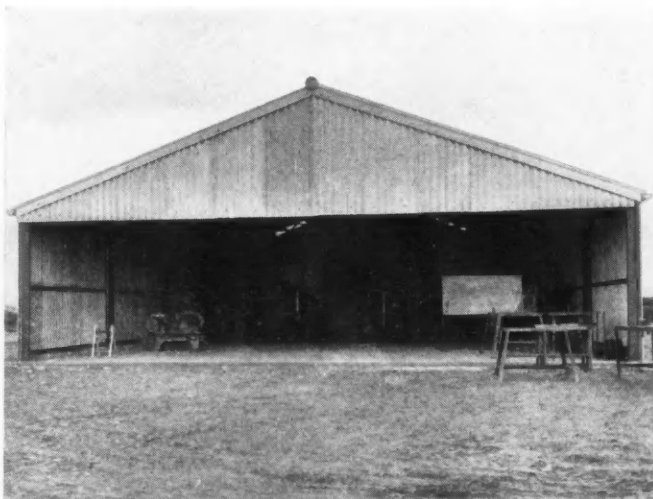
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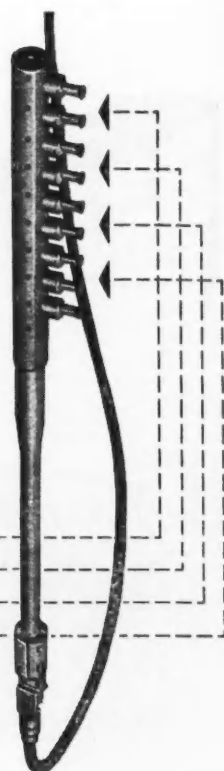


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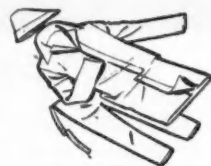
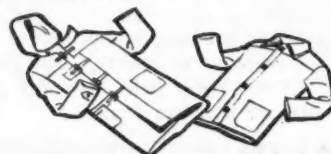


Illustration shows:
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to 46" chest.
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Medium, Large.
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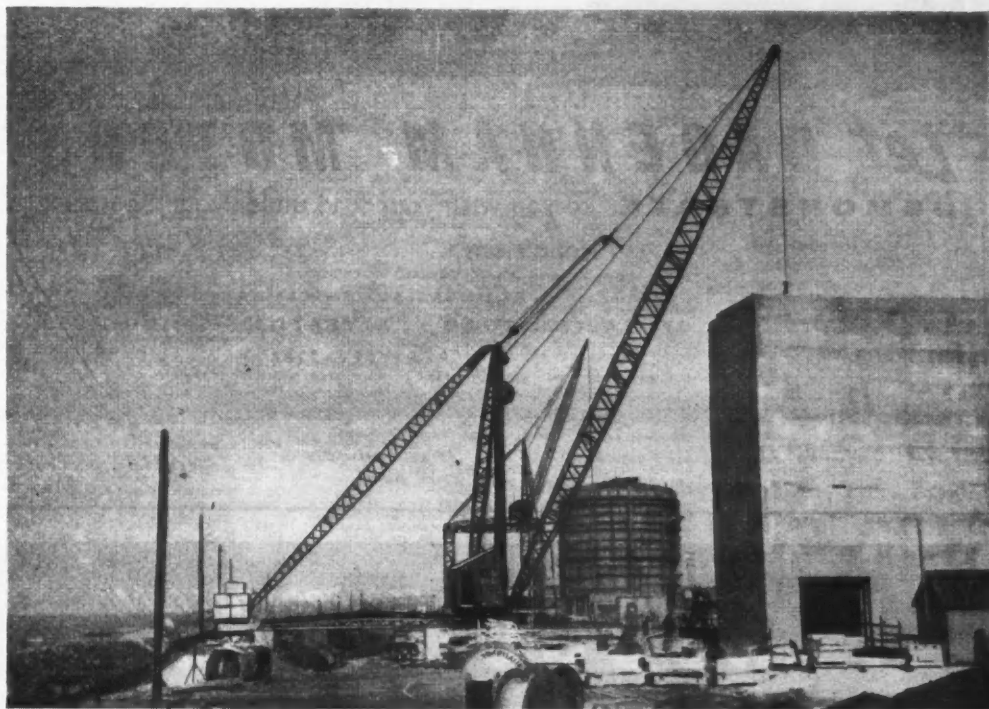
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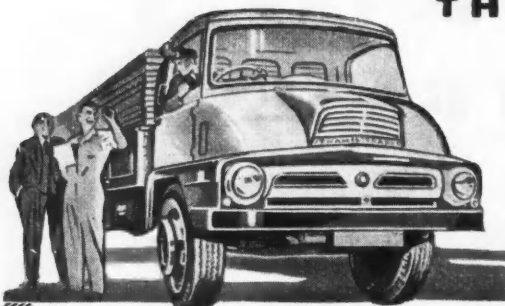
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GUIDE TO AGGREGATES

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WHITECLIFF QUARRIES AND BRICKWORKS, LTD., Coleford, Glos. (Tel. Coleford 3158/9.) Tarrad and bituminous limestone macadam, asphalt, concrete aggregates, dolomitic media, engineering, facing and common bricks for all purposes. Delivery road or rail.

HAMPSHIRE

AMEY'S AGGREGATES, LTD., Lower Wootton, Boars Hill, Oxford. (Tel. Oxford 35421-10 lines.) Pits at Dry Sandford, near Abingdon, Sutton Courtenay, near Abingdon, Sutton Courtenay 275. Theale, near Reading. (Tel. Theale 358.) Dorchester, Oxon. (Tel. Clifton Hampden 236.) Billings, Northampton. (Tel. Cognehoe 464) for washed and graded aggregates to B.S.S.
BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicester. (Tel. Coalville 1226/7/8; or London: Norwood Hill 115.) (For details, see Leics.)
BULL, BROB., S. AND L., LTD., 126A High Street, Winchester. (Tel. 2264.) Concreting aggregates (reconstituted, pit-mined, washed to meet any specification) also ballast, hoggin, path gravel and sand from own pits at Fawley, Lockerley, Ringwood, Romsey, Sway and Totton.
DANGERFIELD, F. J. & CO., LTD., 261A Finchley Rd., London, N.W.3. (Tel. HAMPSHIRE 8044/8.) For all road aggregates, kerbs, setts. (See London.)
GILSON, S. C. AND SONS, LTD., Holcombe, near Bath. (Tel. Stratton-on-Avon 245.)
HALL AND CO., LTD., Baltic Wharf, Marine Parade, Southampton (Tel. Southampton 21234), and at Portsmouth. Pits at Ringwood, Ilighbridge and Totton. Gravel aggregates, concreting, plastering and building sand.
HARRIS, G. AND SONS, Queen Street, Emsworth. For washed sands and graded aggregates, path and road gravels, hoggin, clinker, ashes. (Tel. Emsworth 2693.)
MOREYS (VERWOOD), LTD., Verwood, Wimborne, Dorset. (Tel. Verwood 234.) Concrete aggregates, building sand, hoggin, path gravel.
NEW MILTON SAND AND BALLAST CO., Lymington Road, New Milton, Hants. (Tel. 37.) Guaranteed uncrushed, washed, screened and graded concrete aggregates. All sizes. Washed sharp and fine sands.
PRIVETT, W. G. AND SONS, LTD., Drayton Lane, Portsmouth. (Tel. Cosham 70059.) Concrete aggregates, building sand, hoggin, ashes, washed and graded filter media, etc.
RALPH OF Basingstoke, LTD., 37 Kempshott Lane, Basingstoke, Hants. (Tel. 85.) Concrete aggregates, building sand, path gravel, hoggin, etc.
WRAYBURY SAND AND GRAVEL CO., LTD., Station Rd., Theale, Reading, Berks. (Tel. Theale 373.)
WESSEX SAND AND GRAVEL CO., 126 Hillside Ave., Southampton. (Tel. 56616.) Pits at Romsey and Fair Oak. Concrete aggregates, hoggin, building sand, etc.

HEREFORDSHIRE

BENRGY AND SONS, LTD., Longmoor, Kingsland, Leominster, Herefordshire. (Tel. Kingsland 301/4.) Suppliers of all grades of crushed concrete aggregate, road metal, pitching stone, hardcore and coated macadam.
DINMORE GRAVEL AND STONE CO., LTD., 5A King Street, Hereford. (Tel. Hereford 5523.) Suppliers of all grades concrete aggregates, sand, pitching stone and hardcore.
HARPER AND THOMAS, LTD., Bayston Hill Quarry, Shrewsbury. (See Shropshire for details.)
NASH ROCKS AND STONE AND LIME CO., LTD., Presteigne, Radnor. (Tel. Presteigne 352.) All grades of tarrad and bituminous macadam, roadstone, chippings and concrete aggregates, etc.
OLD HANOR TRADING CO., LTD., Kingston. (Tel. 11.) Granite and limestone aggregates, coated macadam, concrete products.
SALOP SAND AND GRAVEL SUPPLY CO., Admaston, Wellington. (Tel. 961.) Salop.
WHITECLIFF QUARRIES AND BRICKWORKS, LTD., Coleford, Glos. (Tel. 3158/9.) (See Gloucestershire.)

HERTFORDSHIRE

BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicester. (Tel. Coalville 1226/7/8; or London: Norwood Hill 115.) (For details, see Leics.)
DANGERFIELD, F. J. AND CO., LTD., 261A Finchley Road, London, N.W.3. (Tel. HAMPSHIRE 8044/8.) For all road aggregates, kerbs, setts. (See London.)
EASTWOOD, BALER, LTD., Eastwood, Hounslow, City Road, E.C.1. (Tel. Clerkenwell 3040.) Broxbourne pit. (Tel. Hoddendon 2456.) Producers and distributors of all grades of washed aggregates.
HALL AND CO., LTD., Railway Yard, Orchard Road, Stevenage (Tel. 775), and at Hatfield. Gravel aggregates, concreting, plastering and building sand.
ST. IVES SAND AND GRAVEL CO., LTD., 21 The Broadway, St. Ives, Hants. (Tel. St. Ives 2441/2/3/4.) (See Huntingdonshire for details.)
WEBB, G., CAMBRIDGE, 35 Magrath Avenue, Cambridge. (Tel. 3669/4353.) (See Cambridgeshire.)
WINFIELD, HENRY, LTD., Piz Farm Lane, Hemel Hempstead. (Tel. Berkhamstead 1208/9.) Pits at Watford, Loughton Buzzard, Heath and Rease, and Bedford.

HUNTINGDONSHIRE

BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicester. (Tel. Coalville 1226/7/8; or London: Norwood Hill 115.) (For details, see Leics.)
DANGERFIELD, F. J. AND CO., LTD., 261A Finchley Road, London, N.W.3. (Tel. HAMPSHIRE 8044/8.) For all road aggregates, kerbs, setts. (See London.)
FERRERS AND AGGREGATES, LTD., Northampton Road Quarry, Rushden (2354/5). (See Northants.)
GRAVEL PRODUCTS (HUNTS), LTD., St. Neots, Hants. (Tel. St. Neots 123.) Pits at Little Paxton, near St. Neots. (Tel. St. Neots 308.) Deliveries in Hants, Herts, South Cambs.
NENE BARKS AND LIGHTER CO., LTD., Market Chambers, Peterborough (Tel. 5334/5), and Ship End Quarries, Wansford, near Peterborough. (Tel. Wansford 384/5.) Roadstone, hardwood, broken stone, ballast, ash, silica clay and sand.
ST. IVES SAND AND GRAVEL CO., LTD., 22 The Broadway, St. Ives. (Tel. St. Ives 2441/2/3/4.) Producers of all grades of washed sand and gravel. Ready mixed concrete. Precast concrete of every description.
WEBB, G., CAMBRIDGE, 35 Magrath Avenue, Cambridge. (Tel. 3669/4353.) (See Cambridgeshire.)
WELFORD GRAVELS, LTD., Head Office: Goldington, Bedford. (Tel. 4587/8/9.) (See Bedfordshire.)

KENT

BRISTED SAND PITS, Bristed, Kent. (Tel. 586.) London office: 104 Ebury Street, S.E.15. (Tel. New Cross 3337.) Soft and plastering sands, lime and sand-mix dry, hardcore, S.H. bricks, shales etc.
BROWN BROS. (SITTINGBOURNE), LTD., Chalkwell Road, Sittingbourne, Kent. (Tel. Sittingbourne 330.) Sand, ballast, shingle, hardcore, clinker, breeze etc.
CLUBB, J., LTD., Dartford, Kent. (Tel. Dartford 25431.) Pits in North Kent, Medway area and Sevenoaks district. All washed and crushed gravel aggregates, concreting and building sand.
DIAMOND TREAD CO. (1938), LTD., Ditton Court Quarry, Larkfield, near Maidstone. (Tel. West Malling 3444.) Quarries; tarmac, macadam, bituminous macadam and dry road stone manufacturers and suppliers. Head Office: 21-22 Old Bailey, London. (Tel. City 7001-10 lines.)
DIAMOND TREAD CO. (CHART), LTD., Swan Lane Quarries, Little Chart, Ashford, Kent. Quarry owners; tarmac, macadam, bituminous macadam and dry roadstone suppliers. All inquiries to Area Office: Ditton Court Quarry, Larkfield, near Maidstone, Kent. (Tel. W. Malling 3444.)
HALL AND CO., LTD., Canling Street, Maidstone (Tel. Maidstone 51051), and at Folkestone and Hayes. Pits at Lunford, near Larkfield. Gravel aggregates, concreting, plastering and building sand. Surcrete, precision-mixed concrete.
HARRIS, M. F. AND CO., LTD., Station Road, Paddock Wood, Kent. (Tel. 385.) (See Sussex.)
TILBURY QUARRIES, LTD., Pordery, Maidstone. (Tel. Maidstone 5401/2/3.) Suppliers of tarrad, bituminous and dry Kentish ragstone, sea walling, asphalt fillers. Scotch granite and kerbing.

LANCASHIRE

BROOMEYS, LTD., Sandeeds, Milnthorpe (Tel. 3251/2). Westmorland (See Westmorland.)
BUCKTON QUARRY, Broken stone all grades. (Tel. Moseley 123.) Or write Main Road, Oldham.
CASTLETON SAND AND GRAVEL QUARRIES, LTD., Town Lane, Castleton, nr. Rochdale. (Tel. Castleton 57100.) Lee Quarries, Bacup. (Tel. Bacup 287.) Washed pit sand, crushed washed stone aggregates; pitching stone.
CROFT GRANITE BRICK AND CONCRETE CO., LTD., West Bank, Widnes. (Tel. 2656.) "Kubitzed" granite aggregate to B.S.S., tarrad and bituminous macadam, cold asphalt, "Croft-mat" Wet Mix. Filter media, concrete products.
CROXDEN GRAVEL, LTD., Cheshire, Stoke-on-Trent. (Tel. 393.) Manchester Office: Blackfriars 3766/7. Plant capacity, 2,000 tons per day.
DUNNING AND SON, LTD. (See Shropshire.)
HARTLEY, JOHN W., LTD., Lundfield Quarry, Carnforth, Lancs. (Tel. Carnforth 100.) Large producers of highest quality washed sands, clean washed natural pebble and crushed gravel aggregates for all constructional purposes.
HILTON GRAVEL, LTD., Rice Street, Liverpool Road, Manchester. (Tel. 219 and 2195.) Quarries at Cheshire, Staffs. (Tel. Team 241.) And at Longton, Stoke-on-Trent. (Tel. Longton 32196.)
HULLAND GRAVEL CO., LTD., Cheshire, Stoke-on-Trent. (Tel. Cheshire 23214, 2119 and 2195.) Manchester Office: Hardy's Buildings, 3 Cateaton Street Manchester 3. (Tel. Blackfriars 2277/8.)
PENMAENMAWR AND WELSH GRANITE CO., LTD., all sizes and gradings of crushed granite aggregate, immediate delivery ex stock. Liverpool and Preston Depots: Office: 7 Picton Road, Liverpool, 15. (Tel. Sefton Park 7261.) Manchester Depot: Office: Cornbrook Road, Manchester, 15. (Tel. Trafford Park 3830.)
ROUND-O QUARRIES, LTD., Helsby Street, Warrington. (Tel. 35451-4 lines.) Building and concrete sand and shale.
TERN HILLS AND GRAVEL CO., LTD., Alington Quarries, near Market Drayton, Staffs. (Tel. Hales 261/2/3.) (See Staffordshire for details.)
TRENTHAM GRAVEL CO., LTD., Lonsdale Quarries, Willoughbridge, near Market Drayton, Salop. (Tel. 319.) Gate 304/5. All sizes crushed or natural washed gravel. Twice washed sharp concrete sand. Plant capacity: 2,000 tons per day.
WELFORD GRAVELS, LTD., Head Office: Goldington, Bedford. (Tel. 4587/8/9.) Local Office and pits: Chorley 3923.
WITHERS LIMESTONE, LTD., Black Lane Quarry, Chorley. (Tel. Carnforth 327.) Graded limestone aggregate to B.S.S., all sizes. Immediate delivery ex-stock.
X.L. GRANITE (INGLETON), LTD., Head Office: Clapham, via Lancaster. (Tel. Clapham 318/9.) Works Tel: Ingleton 231. All sizes and gradings of Ingleton granite aggregate.

LEICESTERSHIRE

BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicester. (Tel. Coalville 1226/7/8; or London Office: Norwood Hill 115.) Best Leicestershire grey granite, dry and coated gradings to any specification, cold asphalt and wet mix. Prompt road/rail delivery.
BRUNTINGTHORPE GRAVELS, LTD., Gilmorton, near Rugby. (Tel. Lutterworth 46.) All sizes gravel aggregate, building and concrete sand to B.S.S., scientifically balanced ballast.
CLIFFE HILL GRANITE CO., LTD., Markfield, near Leicester. (Tel. Markfield 561/2/3.) Granite aggregates to B.S.S., all sizes. Crushed and bituminous granite, concrete slabs and kerbs. Transit-mixed concrete.
CROFT GRANITE, BRICK AND CONCRETE CO., LTD., Croft, near Leicester. (Tel. Narborough 1261-4 lines.) "Kubitzed" granite aggregate to B.S.S., tarrad and bituminous macadam, cold asphalt, "Croft-mat" Wet Mix. Filter media, concrete products.
DUSTON STONE QUARRIES, LTD., New Duston, Northampton. (Tel. 278 and 298; Duston 505.) (See Northamptonshire.)
ENDERBY AND STONEY STANTON GRANITE CO., LTD., 21 New Walk, Leicester. (Tel. 56682.) Quarries at Enderby. Local Office: 29 Dorset Square, N.W.1. (Tel. Amb 1141.)
HILTON GRAVEL, LTD., Hemington Fields, near Shefford, Derby. (Tel. Hemington 288.)
HOVERINGHAM GRAVEL CO., LTD., Hoveringham, Nottingham. (Tel. Loughdam 3171-15 lines.) (For details, see Nottinghamshire.)
MOUNTSORE, GRANITE CO., LTD., 21 New Walk, Leicester. (Tel. 56682.) Mountsore granite, near Loughborough. 4in. pink granite a speciality. London Office: 29 Dorset Sq., N.W.1. (Amb. 1141.)

LEICESTERSHIRE

WANLIP GRAVELS, LTD., Wanlip Road, Byton, Leicestershire. Any size or gradings, scientifically balanced ballast. All to B.S.S. (Tel. Byton 2327 and 2797.)
WELFORD GRAVELS, LTD., Head Office: Goldington, Bedford. (Tel. 4587/8/9.) (See Northamptonshire.)
WREAKE VALLEY GRAVELS, LTD., Asfordby, Moulton, Leicestershire. (Tel. Pits-Rotherby 25 or head office-Asfordby 252.) All grades washed aggregates and sand.

LINCOLNSHIRE

BULLIMORES SAND AND GRAVEL, LTD., South Witham, Grantham. (Tel. Thistleton 223.) Building sand, hardcore ashes. All grades washed sand and aggregates.
BURROWS BROTHERS (EXCAVATIONS), LTD., Market Place Chambers, West Bars, Chesterfield. (Tel. 7130.) (For details, see Derbyshire.)
CONINGSBY SUPPLY CO., LTD., Registered Office: The Broadway, Woodhall Spa, Lincs. (Tel. Woodhall Spa 3150.) Screened limestone, hardcore, pitching, filling, flint, hoggin. Ex-quarries or delivered.
DOW-MAC (PRODUCTS), LTD., Tallington, Stamford. All grades of washed sand and gravel. (Tel. Market Deeping 3201.)
EAST MIDLANDS BUILDERS SUPPLY CO., 21 Castle-dyke West, Barton-on-Humber, Lincs. (Tel. 2189.) All grades washed sand and gravel, roadstone, hardcore, washed silica sand.
GIBBONS, F. B. AND SONS, LTD., Registered Office: Welby House, Market Deeping, near Peterborough. (Tel. Market Deeping 3321/2383.) Pits at Langtoft, near Peterborough. (Tel. Market Deeping 2210.) All grades washed sand and aggregates.
HARTSHOLME GRAVEL AND SAND CO., LTD., Hartsholme Wood, Doddington Road, Lincoln. Sole selling agents: Hartsholme Sales, Ltd., 17 West Parade, Lincoln. (Tel. Lincoln 8741.)
HOVERINGHAM GRAVEL CO., Hoveringham, Nottingham. (Tel. Loughdam 3171-15 lines.) (For details, see Nottinghamshire.)
PETERBOROUGH QUARRIES, LTD., Sandylands, Masey, Peterborough. (Tel. Market Deeping 335-3 lines.) Quarry at Ropley, all grades of hardcore and broken stone. (See also Northamptonshire.)
POLLARD, C. AND SON (TALLINGTON), LTD., Welby House, Market Deeping, near Peterborough. (Tel. Tallington, near Stamford, Lincs. (Tel. Market Deeping 2140.) All grades washed sand and aggregates. For "Supercrete" ready mixed concrete, telephone Market Deeping 3132.
TRENTFORD GRAVELS, LTD., Head Office: Deansgrove, Grimby. (Tel. Grimby 5354.) Washed and graded gravel and sand, roadstone, hardcore, slag, tarmac, ashes, etc. Pits and quarries throughout the county.

LONDON

BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicester. (Tel. Coalville 1226/7/8; or London: Norwood Hill 115.) (For details, see Leics.)
COX, H. AND SONS, LTD., 33 Southampton Way, Camberwell, S.E.5. (Tel. Rodney 2215-3 lines.)
CROFT GRANITE, BRICK AND CONCRETE CO., LTD., 128-136 High Street, Edgware, "Middlesex." (Tel. Edgware 9076 and 1246.) "Kubitzed" granite aggregate to B.S.S., tarrad and bituminous macadam, cold asphalt, "Croft-mat" Wet Mix. Filter media, concrete products.
DANGERFIELD, F. J. AND CO., LTD., 261A Finchley Road, N.W.3. (Tel. HAMPSHIRE 8044-8.) Granite, limestone or slag, coated or dry, all sizes and pitching, granite kerb and setts, felspar quartz and other minerals by road or rail, or ex-London stock.
DORSET LIMESTONES, LTD., Bumpers Lane, Easton, Portland, Dorset. (Tel. Portland 2207/8.) (For details, see Dorset.)
DRINKWATER, W. W. (WILLEDEN), LTD., Duden Hill Lane, Willesden, N.W.10. (Tel. GLADSTONE 6400/5.) Pits: Rush Green, Denham, Bucks. (Tel. Denham 2241/2/3.) Also Sunley Road, Hounslow Heath, Middlesex. (Tel. Hounslow 6222/3.)
HALL AND CO., LTD., Chantry House, Eccleston Street, S.W.1. (Tel. Sloane 7122), and at East Dulwich, Poplar and Wandsworth. Gravel aggregates, concreting, plastering and building sand.
KEEN, W. J. AND SONS, 18 Granville Road, Epping, Essex. (Tel. Epping 2520.) All sands, ballasts, shingle and hardcore supplied.
LONDON BALLAST CO., LTD., (Tel. Paddington 5064.) 55A Porchester Terrace North, Paddington, W.2.
READ, P. T., LTD., Downs Works, Amhurst Terrace, Hackney, E.8. (Tel. Clissold 6971/2.) All sands, ballast and shingle supplied and delivered; also ready mixed concrete. Pits: Fairlop Airfield, Forest Road, Ilford, Essex. (Tel. Hainault 6111/2/3.)
ROADS RECONSTRUCTION (1934), LTD., Stockley Lane, West Drayton, Middlesex. (Tel. West Drayton 3041.) All sizes broken limestone, dry and coated to British Standards.

MERIONETHSHIRE

SALOP SAND AND GRAVEL SUPPLY CO., Admaston, Wellington. (Tel. 961.) Salop.

MIDDLESEX

CROSS, GEO. C. AND CO., LTD., Ironbridge, Uxbridge Road, Southall. (Tel. Southall 2264/5/6.) Sand, ballast, shingle, hardcore, ashes, etc.
DRINKWATER, W. W. (WILLEDEN), LTD., Staines Rd., Hounslow Hth., Middx. (Tel. Hounslow 6222/3.)
GRUNDON, S., 79 Harrington Road, Hillingdon, Middlesex. (Tel. Uxbridge 4156.) Sand, ballast, shingle, hardcore, ashes, excavation and demolition.
HALL AND CO., LTD., Chantry House, Eccleston Street, S.W.1. (Tel. Sloane 7122), and at Ashford and Brentford. Pits at Bedford, near Feltham. Gravel aggregates, concreting, plastering and building sand.
LONDON BALLAST CO., LTD., (Tel. Paddington 5064.) 55A Porchester Terrace North, Paddington, W.2.
STUART MACEY, LTD., Gordon Road, High Wycombe. (Tel. High Wycombe 2591/2.)
THAMES SAND AND GRAVEL CO., LTD., Fordridge Road, Shepperton. (Tel. Walton-on-Thames 2316.) Gravel aggregates, concreting, plastering and building sand.
WRAYBURY SAND AND GRAVEL CO., LTD., Pits at Wraybury. (Tel. Wraybury 164.) Gravel aggregates, concreting, plastering and building sand.

CONTRACTORS' GUIDE TO AGGREGATES

MID-WALES

BENGRY AND SONS, LTD., Llongmoor, Kingsland, Loominster, Herefordshire. (Tel.: Kingsland 301/4.) (See details under Herefordshire.)

ELLESMERE SAND AND GRAVEL CO., LTD., Wood Lane, Ellesmere, Salop. (Tel.: Ellesmere 167.) (For details, see Shropshire.)

HARPER AND THOMAS, LTD., Bayston Hill Quarry, Shrewsbury. (See Shropshire for details.)

NASH ROCKS STONE AND LIME CO., LTD., Presteigne, Radnor. (Tel.: Presteigne 352.) (See Herefordshire for details.)

OLD RADNOR TRADING CO., LTD., Quarries in Radnorshire (Tel.: Kingston 11.) (See Herefordshire.)

SALOP SAND AND GRAVEL SUPPLY CO., Adamston, Wellington (Tel. 961), Salop.

TERN HILL SAND AND GRAVEL CO., LTD., Alington Quarries, near Market Drayton, Staffs. (Tel.: Hales 261/2/3.) (See Staffordshire for details.)

MONMOUTHSHIRE

IN-SITU CONCRETE, LTD., Victoria Works, Ebbw Vale (Tel. 3032) and Phoenix Works, Cardiff (Rhinebina 2360) for limestone and slag aggregates, ready-mixed concrete, tarmacadam, media, filling, etc., kerbs and pavings.

MONMOUTHSHIRE ASSOCIATED QUARRIES, LTD., Head Office: 38 Chepstow Road, Newport, Mon. (Tel.: Newport 58311/2.) Suppliers of all grades of concrete aggregates, road metalling, pitching stone, tarmacadam and bituminous macadam in limestone, dolomite and blue pennant stone. Quarries throughout the county.

WHITECLIFF QUARRIES AND BRICKWORKS, LTD., Colford, Glos. (Tel. 3158/9.) (See Gloucestershire.)

MONTGOMERYSHIRE

HARPER AND THOMAS, LTD., Bayston Hill Quarry, Shrewsbury. (See Shropshire for details.)

NASH ROCKS STONE AND LIME CO., LTD., Presteigne, Radnor. (Tel.: Presteigne 352.) (See Herefordshire for details.)

SALOP SAND AND GRAVEL SUPPLY CO., Adamston, Wellington (Tel. 961), Salop.

NORFOLK

BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicester. (Tel.: Coalville 1226/7/8; or London: Norwood Hill 115.) (For details, see Leics.)

FRECKENHAM GRAVEL CO., LTD., Freckenham, Sutton, Ely, Cambs. (Tel.: Sutton 391/3.) Washed sand and gravel. Pit: Felitwell.

JOHNKIN, F. C. H., LTD., Station Road, Terrington St. Clement 248. Washed and screened gravel roadstone, washed sharp and fine sand.

THORPE GRAYVEY LTD., Station Road, Norwich. (Tel.: Norwich 332434.) Washed and graded aggregates, stone and gravel delivered to all parts of Norfolk and Suffolk.

NORTHAMPTONSHIRE

AMEY'S AGGREGATES, LTD., Lower Wootton, Boars Hill, Oxford. (Tel.: Oxford 35421—10 lines.) Pits at Dry Sandford, near Abingdon, Sutton Courtenay, near Abingdon. (Tel.: Sutton Courtenay 275.) Theale, near Reading. (Tel.: Theale 353.) Dorchester, Oxon. (Tel.: Clifton Hampden 236.) Billing, Northampton. (Tel.: Cogenhoe 464) for washed and graded aggregates to B.S.S.

BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicester. (Tel.: Coalville 1226/7/8; or London: Norwood Hill 115.) (For details, see Leics.)

BICESTER STONE CO., LTD., Stratton Audley 238. Manufacturers and suppliers of all grades limestone tarmacadam, dry, pitching stone, hardcore, etc.

BILLING GRAVEL, LTD., Station Road, Billing, Northampton. (Tel.: Cogenhoe 219.) London office: 23 Berkeley Square, W.1. (Tel.: Mayfair 6341.)

BRAYBROOK, E. W., LTD., Newton Road, Higham Ferrers, Northants. (Tel.: Rushden 3344 and 3345.) All grades of washed and graded aggregates to B.S.S. Building sand, hardcore.

DANGERFIELD, F. J. AND CO., LTD., 261A Finchley Road, London, N.W.3. (Tel.: HAMPSHIRE 8044/8.) For all road aggregates, kerbs, setts. (See London.)

DOW-MAC (PRODUCERS), LTD., Tallington, Stamford. All grades of washed sand and gravel. (Tel.: Market Deeping 2301.)

DUSTON STONE QUARRIES, LTD., New Duston, Northampton. (Tel.: Brixworth 378 and 298; Duston 505.) Producers of building and walling stone, roadstone, hardcore, broken stone, ashes, sand, gravel and hoggin. Immediate delivery throughout Northamptonshire.

FERRERS AND AGGREGATES, LTD., Northampton Road Quarries, Rushden, Northants. (Tel.: Rushden 2354/5.) Largest producers in the county of all grades of high-quality concrete aggregate to B.S.S. Deliveries throughout Northamptonshire and adjoining counties.

GIBBONS, F. B. AND SONS, LTD., Welby House, Market Deeping 3321/2383. (See Lincolnshire for details.)

HOVERINGHAM GRAVEL CO., Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)

KETTON STONE CO. (Prop. Andrew's Garage), Ketton, near Stamford. (Tel.: Ketton 206.) Hardcore, roadstone, crushed stone, top soil, silica clay. Quarries at Ketton.

NENE BARGE AND LIGHTER CO., LTD., Market Chambers, Peterborough. (Tel. 5534/5.) and Ship End Quarries, Wansford, near Peterborough. (Tel.: Wansford 384/5.) Roadstone, hardcore, broken stone, ballast, sub-base, silica clay and sand.

NEWARK (PETERBOROUGH) SAND AND GRAVEL CO., LTD., 127 Eastfield Road, Peterborough. (Tel.: Peterborough 209.) All grades washed and screened gravel and sand.

PETERBOROUGH QUARRIES, LTD., Sandylands, Masey, Peterborough. (Tel.: Market Deeping 2355—3 lines.) Eight quarries supplying all grades of hardcore and broken stone. Also Wezmix at Yarewell, Wansford. All grades gravel and sand at Masey.

POLLARD, C. AND SON (TALLINGTON), LTD., Walk House, Langtoft, Peterborough. (Tel.: Market Deeping 2140.) (See Lincolnshire for details.)

WELFORD GRAVEL, LTD., Head Office: Goldington, Bedford. (Tel.: 4587/8/9.) Largest producers of all grades of washed aggregates in Northamptonshire and Bedfordshire. Regular deliveries anywhere. Local office and pits: Fordly Ford. (Tel.: Welford 250.)

NORTH WALES

CHESHIRE AND NORTH WALES TARRIED MACADAM CO., LTD., Llanarmon, near Mold. (Tel.: Llanarmon-y-Vale 43.) Hard, broken limestone, dry and coated to B.S.S. Inquiries to Registered Office—Market Chambers, Tower Square, Tustall, Stoke-on-Trent. (Tel.: Stoke-on-Trent 88004.)

ELLESMERE SAND AND GRAVEL CO., LTD., Wood Lane, Ellesmere, Salop. (Tel.: Ellesmere 167.) (For details, see Shropshire.)

ENSTON BROS., Llwyn Isaf Quarry, Clynog Fawr, Caernarvon. (Tel.: Clynog Fawr 297/8.) All sizes crushed, washed natural sand and gravel. Highest quality. Precast concrete products, ex our Griffiths Crossing Factory, Caernarvon. (Tel.: Caernarvon 2535/6.) Crushed granites ex our quarry, Pengwern and Gwydyr Quarries, Ltd., Trefriw, Llanrwst, Denbighshire. (Tel.: Llanrwst 38.)

PENMAENMAWR AND WELSH GRANITE CO., LTD., Quarries at Penmaenmawr (Tel. 2256/8), and at Trevor (Tel.: Clynogfawr 223), Caernarvonshire. All sizes and gradings of crushed granite aggregate. Any quantity per day; immediate delivery ex stock. Coated granite also available.

RUTHIN AND DENBIGH TARMACADAM CO., LTD., Denbigh. (Tel.: Denbigh 75.) Lime, limestone, carbonate of lime, tarmacadam, etc. Also inquiries to Lunt Bros., Ltd., 23 Colmore Row, Birmingham. (Tel.: Central 7408—4 lines), and Lunt Bros., Ltd., Stourbridge (Tel. 5201—6 lines.)

TERN HILL SAND AND GRAVEL CO., LTD., Alington Quarries, near Market Drayton, Staffs. (Tel.: Hales 261/2/3.) (See Staffordshire for details.)

NORTH WALES

NOTTINGHAMSHIRE

BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicester. (Tel.: Coalville 1226/7/8; or London: Norwood Hill 115.) (For details, see Leics.)

BURROWS BROTHERS (EXCAVATIONS), LTD., Market Place Chambers, West Barn, Chesterfield. (Tel. 7130.) (For details, see Derbyshire.)

GLEN QUARRIES, LTD., Central Chambers, Wellgate, Rushden, Northants. (Tel.: Rushden 3233.) Crushed and graded stone, concrete sand, building sand, plastering sand and crushed gravel; could be collected ex-quarry or delivered.

GUNTHORPE GRAVELS (1958), LTD., (Tel.: Nottingham 77357; and Works: Lowdham 2131.) (An associate company of T. C. Campbell, Ltd.) All grades washed gravel and sand to B.S.S.

HOVERINGHAM GRAVEL CO., Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) Quarries at Hoveringham, Holme, Pierpoint Colwick, Bleanby and Newark. All grades of washed gravel and sand to any specification. Crushed gravels for surface dressing of roads a speciality. Plant capacity 8,000 tons per day.

NEWARK GRAVEL AND CONCRETE CO., LTD., Grove Street, New Balderton, Newark, Notts. (Tel.: Newark 401.) All grades washed sand and aggregates.

SALISBURY AND WOOD, LTD., Nantlock. (Tel. 272/273.) (For details see Derbyshire.)

OXFORDSHIRE

AMEY'S AGGREGATES, LTD., Lower Wootton, Boars Hill, Oxford. (Tel.: Oxford 35421—10 lines.) Pits at Dry Sandford, near Abingdon, Sutton Courtenay, near Abingdon. (Tel.: Sutton Courtenay 275.) Theale, near Reading. (Tel.: Theale 353.) Dorchester, Oxon. (Tel.: Clifton Hampden 236.) Billing, Northampton. (Tel.: Cogenhoe 464) for washed and graded aggregates to B.S.S.

BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicester. (Tel.: Coalville 1226/7/8; or London: Norwood Hill 115.) (For details, see Leics.)

BENGRY AND SONS, LTD., Llongmoor, Kingsland, Loominster, Herefordshire. (Tel.: Kingsland 301/4.) (See details under Herefordshire.)

BICESTER STONE CO., LTD., Stratton Audley 238. Manufacturers and suppliers of all grades limestone tarmacadam, dry, pitching stone, hardcore, etc.

CURTIS, J. AND SONS, LTD., Botley Works, Oxford. (Tel. Oxford 41081/2/3.) Sand and all grades of washed aggregates. Pits at Radley, near Abingdon. (Tel.: Abingdon 441.)

DANGERFIELD, F. J. AND CO., LTD., 261A Finchley Road, London, N.W.3. (Tel.: HAMPSHIRE 8044/8.) For all road aggregates, kerbs, setts. (See London.)

DIX, C. H. AND SON, LTD., Freeland, Oxon. (Tel.: Freeland 234.)

DUSTON STONE QUARRIES, LTD., New Duston, Northampton. (Tel.: Brixworth 278 and 298; Duston 505.) Producers of building and walling stone, roadstone, hardcore, broken stone, ashes, sand, gravel and hoggin. Immediate delivery throughout Northamptonshire.

GRUNDON, S. (EWELEME), LTD., Eweleme, Oxon. (Tel.: Eweleme 20.) London Office (Tel.: Uxbridge 4156.) All grades washed aggregates. Path hoggin broken stone, building sand.

HAINES, H. (WITNEY), LTD., Oxford Road, Witney. (Tel.: Witney 42.) All grades washed aggregates, hardcore, pitching and broken stone. Cotswold building and walling stone.

WRAYBURY SAND AND GRAVEL CO., LTD., Station Rd., Theale, Reading, Berks. (Tel.: Theale 373.)

RADNORSHIRE

BENGRY AND SONS, LTD., Llongmoor, Kingsland, Loominster, Herefordshire. (Tel.: Kingsland 301/4.) (See details under Herefordshire.)

NASH ROCKS STONE AND LIME CO., LTD., Presteigne, Radnor. (Tel.: Presteigne 352.) (See Herefordshire for details.)

OLD RADNOR TRADING CO., LTD., Quarries in Radnorshire. (Tel.: Kingston 11.) (See Herefordshire.)

SALOP SAND AND GRAVEL SUPPLY CO., Adamston, Wellington (Tel. 961), Salop.

RUTLAND

BULLIMORE SAND AND GRAVEL, LTD., South Witham, Grantham, Lincs. (Tel.: Thilston 223.) Building sand, hardcore, ash. All grades washed sand and aggregate.

GIBBONS, F. B. AND SONS, LTD., Welby House, Market Deeping 3321/2383. (See Lincolnshire for details.)

HOVERINGHAM GRAVEL CO., Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)

KETTON STONE CO. (Prop. Andrew's Garage), Ketton, nr. Stamford. (Tel.: Ketton 206.) Hardcore, roadstone, crushed stone, top soil, silica clay. Quarries at Ketton.

PETERBOROUGH QUARRIES, LTD., Sandylands, Masey, Peterborough. (Tel.: Market Deeping 2355—3 lines.) Quarry at Greetham, all grades of broken stone and hardcore. (See also Northamptonshire.)

RUTLAND

POLLARD, C. AND SON (TALLINGTON), LTD., Walk House, Langtoft, Peterborough. (Tel.: Market Deeping 2140.) (See Lincolnshire for details.)

SCOTLAND

KEIR AND CAWDER, LTD., Kirkintilloch Road, Bishopbriggs. (Tel.: Bishopbriggs 3200.) All grades washed sand and gravel aggregates.

SHROPSHIRE

BALLIDON QUARRIES, LTD., Ballidon, near Ashbourne, Derbyshire. (Tel.: Farwich 201 and 202.) Clean and graded dry limestone to B.S.S., all sizes, coated limestone to B.S. 802 and 1621 and wet-mix; large output; reliable deliveries.

BENGRY AND SONS, LTD., Llongmoor, Kingsland, Loominster, Herefordshire. (Tel.: Kingsland 301/4.) (See details under Herefordshire.)

DUNNING AND SON, LTD., Haughmond Quarry, near Shrewsbury. (Tel.: Upton Magna 286/7.) All grades of high-quality roadstone, concrete aggregates and coated macadam. All to B.S.S. Any tonnage available for immediate delivery.

ELLESMERE SAND AND GRAVEL CO., LTD., Wood Lane, Ellesmere, Salop. (Tel.: Ellesmere 167.) All grades of washed gravel, aggregate, concrete and building sands.

HARPER AND THOMAS, LTD., Bayston Hill Quarry, Shrewsbury. (Tel.: Bayston Hill 351.) High quality roadstone, chippings, concrete aggregates, hardcore and coated macadam. Large tonnages always available.

NASH ROCKS STONE AND LIME CO., LTD., Presteigne, Radnor. (Tel.: Presteigne 352.) (See Herefordshire for details.)

OLD RADNOR TRADING CO., LTD., Kingston (Tel. 11.) (See Herefordshire.)

SALOP SAND AND GRAVEL SUPPLY CO., Adamston, Wellington (Tel. 961), Salop.

TERN HILL SAND AND GRAVEL CO., LTD., Alington Quarries, near Market Drayton, Staffs. (Tel.: Hales 261/2/3.) (See Staffordshire for details.)

TRENTHAM GRAVEL CO., LTD., Lordsey Quarries, Willoughbridge, near Market Drayton, Salop. (Tel.: Pipe Gate 304/5.) All sizes crushed or natural washed gravel. Twice washed sharp concrete sand, plastering sand. Plant capacity 2,000 tons per day.

SOMERSET

ASHAM QUARRY CO., LTD., Chantry, Frome. (Tel.: Nunney 351.) All sizes block, broken and aggregates. Tarried and bituminous macadam. Ex-quarry delivered.

DANGERFIELD, F. J. AND CO., LTD., 261A Finchley Road, London, N.W.3. (Tel.: HAMPSHIRE 8044/8.) For all road aggregates, kerbs, setts. (See London.)

GILSON, S. C. AND SONS, LTD., Hiltcombe, near Bath. (Tel.: Stratton-on-the-Avon 2.)

HALL AND CO., LTD., Llongmoor House, Ashton Vale Road, Bristol, 3. (Tel. 63001.) Gravel aggregates, concrete, plastering and building sand.

ROADS RECONSTRUCTION (1934), LTD., Stoneleigh House, Frome. (Tel.: Frome 2361.) All sizes broken limestone, dry and coated, to British Standards. Precast concrete products.

WAINWRIGHT, JOHN, AND CO., LTD., Shepton Mallet. (Tel.: Shepton Mallet 2366/7.) All sizes basal, coated basal, concrete aggregates. Filter media, building blocks and slabs.

SOUTH SCOTLAND

ESK MANUFACTURING CO., LTD., Carlisle. (Tel.: Carlisle 2-4941.) (For details see Cumberland.)

SOUTH WALES

IN-SITU CONCRETE, LTD., Victoria Works, Ebbw Vale (Tel. 3032) and Phoenix Works, Cardiff (Rhinebina 2360) for limestone and slag aggregates, ready-mixed concrete, tarmacadam, media, filling, etc., kerbs and pavings.

PENMAENMAWR AND WELSH GRANITE CO., LTD., 18 Quay Street, Cardiff. (Tel. 20646/7.) All sizes and gradings of crushed granite aggregate from our Cardiff and Swansea Dock Depots. Dolomite aggregates from Ewenny Quarry, Bridgend. (Tel. 1086/7.) Coated stone also available.

SESSIONS AND SONS, LTD., West Dock, Cardiff. Producers of coarse and fine aggregate, dredged and graded to British Standards. Branches Newport and Swansea. (Also Gloucester and Hereford.)

SOUTH WALES SAND AND GRAVEL CO., LTD., Head Office: P.O. Box 8, Beaufort Buildings, Swansea. (Tel.: Swansea 53071—5 lines.) Sand and gravel merchants, builders' merchants. Pennant Quarry owners, slag hardcore, ashes, filling, graded clinker filter media. Depots: Cardiff, Newport, Barry, Port Talbot, Briton Ferry, Swansea, Llanelly.

STAFFORDSHIRE

BALLIDON QUARRIES, LTD., Ballidon, near Ashbourne, Derbyshire. (Tel.: Farwich 201 and 202.) Clean and graded dry limestone to B.S.S., all sizes, coated limestone to B.S. 802 and 1621 and wet-mix; large output, reliable deliveries.

BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicester. (Tel.: Coalville 1226/7/8; or London: Norwood Hill 115.) (For details, see Leics.)

CROXEN GRAVEL, LTD., Cheside, Stoke-on-Trent Staffs. (Tel.: Tean 393.) Manchester Office Blackfriars 3766/7. Plant capacity, 2,000 tons per day.

DUNNING AND SON, LTD., Wood End Gravel Pits, Hednesford. (Tel.: Hednesford 302/325.) Washed sand and gravel. All to B.S.S. High-quality roadstone, concrete aggregates and coated macadam from our Haughmond Quarry, near Shrewsbury. (See Shropshire.)

HARPER AND THOMAS, LTD., Bayston Hill Quarry, Shrewsbury. (See Shropshire for details.)

HILTON GRAVEL, LTD., Cheside, Staffs. (Tel.: Tean 241.) Also at Longton, Stoke-on-Trent (Tel.: Longton 32196) and Sutton, Burton-on-Trent (Tel.: Burton 5051.)

MULLAND GRAVEL CO., LTD., Cheside, Stoke-on-Trent. (Tel.: Cheside 2323/4, 2119 and 2195.) Manchester Office: Hardly's Buildings, 3 Causeway Street, Manchester, 3. (Tel.: Blackfriars 2277/8.)

RUGELEY GRAVEL CO., LTD., Rugeley Quarries, Rugeley, Staffs. (Tel.: Rugeley 251/2.) Entirely modern plant. Sand classifiers. Finest aggregates to B.S.S. Large output.

CONTRACTORS' GUIDE TO AGGREGATES

STAFFORDSHIRE

SALISBURY AND WOOD, LTD., Matlock. (Tel. 272/273.) (For details see Derbyshire.)
SHIRE OAK GRAVELS, LTD., Lichfield Road, Walsall Wood, Staffs. Washed crushed gravel and washed sand. (Tel.: Brownhills 3253.)
TERN HILL SAND AND GRAVEL CO., LTD., Alington Quarries, near Market Drayton, Staffs. (Tel.: Hales 261/2/3.) Pit sand, concrete sand, and all grades of washed crushed gravel. Hardcore, clinkers, ashes and hoggin.
TRENTHAM GRAVEL CO., LTD., Lordsley Quarries, Willoughbridge, near Market Drayton, Salop. (Tel.: Pipe Gate 304/5.) All sizes crushed or natural washed gravel. Twice washed sharp concreting sand. Plastering sand. Plant capacity 2,000 tons per day.

SUFFOLK

ALRESFORD SAND AND BALLAST CO., LTD., Alresford Creek, near Colchester, Essex. (Tel.: Wivenhoe 341.) Suffolk area pits as Bures and Stoke-by-Nayland. All grades washed aggregate sand, also hoggin.
BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicester. (Tel.: Coalville 1226/7/8.) London: Norwood Hill 1153. (For details, see Leics.)
DANGERFIELD, F. J. AND CO., LTD., 261A Finchley Road, London, N.W.3. (Tel.: HAMstead 8044/8.) For all road aggregates, kerbs, setts. (See London.)
DARBY'S SAND AND GRAVEL CO., LTD., Pit at Chilpenham, Cambs. (See Cambs.)
DICKERSON, M., LTD., Teverham Corner, Newmarket Road, Cambridge. (Tel.: Cam. 56973/4.) (See Cambs.)
FRECKENHAM GRAVEL CO., LTD., Pit at Freckenham. (See Cambs.)
HALL AND CO., LTD., West End Road, Ipswich. (Tel.: Ipswich 55593/4.) Pits at Kesgrave and Homersfield, near Harleston. Gravel aggregates, concreting, plastering and building sand.
MACLAREN BRUS (KENNETH), LTD., Station Road Kennet, Cambs. (Tel.: Keston 333/4.) (See Cambs.)
ST. IVES SAND AND GRAVEL CO., LTD., 22 The Broadway, St. Ives, Hants. (Tel.: St. Ives 2441/2/3/4.) (See Huntingdonshire for details.)
THORPE GRAVEL PIT, LTD., Harvey Lane, Norwich (Tel.: Norwich 33243/4.) (See Norfolk.)
WEBB, G., CAMBRIDGE, 35 Magrath Avenue Cambridge. (Tel. 3969/4353.) (See Cambs.)

SURREY

COFF, HARRY A., LTD., Buckhurst Hill, Chesham, Berks. (Tel.: 1026/7.) (See Berkshire.)
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HARRIS, M. F. AND CO., LTD., Kingston Road, Leatherhead, Surrey (Tel. 3497). (See Sussex.)
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MARCO (AGGREGATES), LTD., Pit: Norlands Lane, Thorpe, near Egham. (Tel.: Chersey 3401.) Producers and distributors of high-grade washed sand, shingle, ballast, etc.
MARCO (CROYDON), LTD., Hampton Road, West Croydon. (Tel.: Oxted Heath 4236/7/8.) All building and road aggregates.
WELLS, A. L. AND SON, LTD., Builders' Merchants, Garlands Road, Leatherhead. (Tel.: 3018/9.) Sand aggregates, hardcore, ashes, cement. Clinker block manufacturers.
WINTON, WM. R., LTD., Sand, Woking. (Tel.: Ripley 2454/5.) All grades sand, shingle, ballast, hoggin and ashes. Clinker block manufacturers.

SUSSEX

AVANN, F., Cavendish Avenue, Eastbourne. (Tel.: 4969/70.) Washed and graded ballast, sand, bricks, breeze and concrete blocks, hardcore, clinker, tarmac, etc., supplied.
DANGERFIELD, F. J. AND CO., LTD., 261A Finchley Road, London, N.W.3. (Tel.: HAMstead 8044/8.) For all road aggregates, kerbs, setts. (See London.)
GILSON, S. C. AND SONS, LTD., Holcombe, near Bath. (Tel.: Stratton-on-the-Fosse 243.)
HALL AND CO., LTD., 16 Chapel Road, Worthing. (Tel.: Worthing 7840.) Other main depots at Bexhill, Bognor, Crowborough, East Grinstead, Eastbourne, Horsham, Hove and Seaford. Pits at Washington, Crumblies, near Eastbourne, Chichester, Rye Harbour, Midhurst, Shoreham and Portlaine. Gravel aggregates, concreting, plastering and building sand, Surecrete precision-mixed concrete.
HARRIS, M. F. AND CO., LTD., West station Goods Yard, Bexhill (Tel. 61); Cavendish Place, Eastbourne (Tel. 3800); Dominon Road, Worthing (Tel. 8222); Whitbread Lane, Northiam (Tel. 2211); Station Goods Yard, Haywards Heath (Tel. 1750); Crawley Road, Northiam (Tel. 3366); The Horner, Chichester (Tel. 4181). All grades aggregates, hardcore, clinker, ashes, etc.
WRIGHT, C. AND SONS (BTON), LTD., 19 Bristol Gardens, Brighton 7. (Tel.: Brighton 63357 and 62-06.) All-in ballast, washed and crushed shingle, sand, ashes, hardcore, chalk, bricks, etc.

WARWICKSHIRE

BALLIDON QUARRIES, LTD., Ballidon, near Ashbourne, Derbyshire. (Tel.: Farwich 201 and 202.) Clean and graded dry limestone to B.S.S., all sizes, coated limestone to B.S. 802 and 1621 and wet-mix; large output; reliable deliveries.
BRUNTINGTHORPE GRAVELS, LTD., Gilmorton, near Rugby. (Tel.: Lutterworth 46.) All sizes gravel aggregates, building and concrete sand to B.S.S., scientifically balanced ballast.
COOPER, J. A. (TRANSPORT), LTD., Hurley, near Atherstone, Warwick. (Tel.: Hurley 225.) Shale pit at Newdigate Colliery, Bedworth, near Coventry. Shale, hardcore and clinker ash as dug or graded. Delivered to site or loaded into customers' own vehicles by arrangement.
DUSTON STONE QUARRIES, LTD., New Duston, Northampton. (Tel.: Brixworth 278 and 298; Duston 406.) (See Northamptonshire.)
HALL AND CO., LTD., 188 Lichfield Road, Four Oaks, Sutton Coldfield. (Tel.: Four Oaks 356.) Gravel aggregates, concreting, plastering and building sand.
HARRIS, M. F. AND CO., LTD., Navigation Bridge, Stone, Stanton Road, Coventry. Tel. 8943/9. All materials, granites, hardcore, kerbs and flags, gravel sands, ashes, setts, etc.
JUDKINS, LTD., Granite Quarries, Tuttle Hill, Nuneaton. (Tel.: Nuneaton 3411-10 lines.) All sizes washed granite aggregate, tared and bituminous medium. Slab mix speciality.
WELFORD GRAVELS, LTD., Head Office: Goldington, Bedford. (Tel. 4587/8/9.) (See Bedfordshire and Northamptonshire.)
YEOMANS, G. R. LTD., Oxford Road, Ryton-on-Dunsmore, near Coventry. (Tel.: Coventry, Tollbar 2376/7/8.) Shale, hardcore—as dug and graded. Loaded into vehicles or delivered to site.

WESTMORLAND

BROOMBYS, LTD., Sandside, Milnthorpe, Westmorland. (Tel.: Milnthorpe 3251/2.) All grades washed crushed gravel, sand, limestone, granite chippings, pitching, tarmacadam, rockery stone, etc.
ESK MANUFACTURING CO., LTD., Carlisle. (Tel.: Carlisle 2-4041.) For details, see Cumberland.

WILTSHIRE

AMEY'S AGGREGATES, LTD., Lower Wootton, Boars Hill, Oxford. (Tel.: Oxford 35421-10 lines.) Pits at Dry Sandford, near Abingdon, Sutton Courtenay, near Abingdon. (Tel.: Sutton Courtenay 275.) Theale, near Reading. (Tel.: Theale 358.) Dorchester, Oxon. (Tel.: Clifton Hamden 236.) Billings, Northampton. (Tel.: Cogenhoe 464) for washed and graded aggregates to B.S.S.
BULL, BRUB. & AND L., LTD., 126A High Street, Winchester. (Tel.: 2264.) (See Hampshire.)
COKE T. F. (CHELTENHAM), LTD., 267 Gloucester Road, Cheltenham. (Tel.: 4717/4874.) (See Glos.)

WILTSHIRE

DANGERFIELD, F. J. AND CO., LTD., 261A Finchley Road, London, N.W.3. (Tel.: HAMstead 8044/8.) For all road aggregates, kerbs, setts. (See London.)
GILSON, S. C. AND SONS, LTD., Holcombe, near Bath. (Tel.: Stratton-on-the-Fosse 243.)
MOREYS (VERWOOD), LTD., Verwood, Wimborne, Dorset. (Tel.: Verwood 234.) Concrete aggregates, building and hoggin path gravel.
POOLE (LECHLADE), LTD., Gravel Pit, Burford Road, Lechlade, Glos. (Tel.: Lechlade 219.)
TAYMAC, LTD., Wootton Bassett. (Tel.: 391-3 lines.) Pits at Leck. (Tel.: 304), Wills, Fairford and Poulton, Glos. (Tel.: Fairford 365/6.) Washed crushed and graded aggregates, washed and screened building sand. Graded clinker media.

WORCESTERSHIRE

BALLIDON QUARRIES, LTD., Ballidon, near Ashbourne, Derbyshire. (Tel.: Farwich 201 and 202.) Clean and graded dry limestone to B.S.S., all sizes, coated limestone to B.S. 802 and 1621 and wet-mix; large output; reliable deliveries.
BENGEY AND SONS, LTD., Congmoor, Kingsland, Leominster, Herefordshire. (Tel.: Kingsland 301/4.) (See details under Herefordshire.)
DINMORE GRAVEL AND STONE CO., LTD., 5A King Street, Hereford. (Tel.: Hereford 3523.) Suppliers of all grades of concrete aggregates, sand, pitching stone and hardcore.
DUNNING AND SON, LTD. (See Shropshire.)
HARPER AND THOMAS, LTD., Bayston Hill Quarry, Shrewsbury. (See Shropshire for details.)
NASH ROCKS STONE AND LIME CO., LTD., Presteigne, Radnor. (Tel.: Presteigne 352.) (See Herefordshire for details.)
OLD RADNOR TRADING CO., LTD., Kingston. (Tel. 11.) (See Herefordshire.)

YORKSHIRE

BRAITHWAITE, A. AND CO., LTD., Conyngham Hall, Knaresborough. (Tel.: Knaresborough 2286.) Quarries at Knaresborough (Tel.: Knares. 2286) and Catterick (Tel.: Old Cat. 157). Washed, crushed and graded concrete aggregates to B.S. Specification. Output 2,000 tons daily. Ready mixed mortar and ready mixed concrete also available.
BURROWS BROTHERS (EXCAVATIONS), LTD., Market Place Chambers, West Barn, Chesterfield. (Tel.: 7130.) (For details, see Derbyshire.)
DENIFF, ALAN S., LTD., Kiveton Park, near Sheffield. (Tel.: Kiveton 446/7/8.) Truck-mixed and pre-mixed concrete, washed and crushed gravel, concreting sand, building sand, crushed and graded stone.
GLEN QUARRIES, LTD., Central Chambers, Wellgate, Rotherham. (Tel.: Rotherham 5223.) Crushed and graded stone, concreting sand, building sand, plastering sand and crushed gravel could be collected ex-quarry or delivered.
HOVERINGHAM GRAVEL CO., Hoveringham, Nottingham. (Tel.: Lowham 3171-15 lines.) (For details, see Nottinghamshire.)
SALISBURY AND WOOD, LTD., Matlock. (Tel.: 272/273.) (For details see Derbyshire.)
SLATER BROS. (WHITLEY), LTD., Whitley Bridge, near Gooite. (Tel.: Whitley Bridge 300 and 316.) Washed and crushed gravel. Concreting sand, building sand, crushed and graded stone, natural white stone for crazy pavings, terrace walls and house building.
STANLEY FERRY GRAVEL CO., LTD., Norwich Union Building, City Square, Leeds, 1. (Tel.: Leeds 26361.) Washed, crushed and natural graded sand and gravel. Supplies to specification, large daily production. Centre of Yorks. West Riding market. Pit: Wakefield.
WELBECK SAND AND GRAVEL CO., Parkhill, Wakefield. (Tel.: Wakefield 4454.) Washed sand and gravel.
WEST RIDING GRAVEL CO., Norwich Union Building, City Square, Leeds, 1. (Tel.: Leeds 23562.) Modern 1,000-ton daily plant produces washed grit and soft sands. All aggregates to specification. Competitive Yorks. West Riding to Lancs. borders. Pit: Wakefield.
WHITAKER, B. AND SONS, LTD., Eiland Road, Leeds. (Tel.: Leeds 75207.) Washed, graded sand and gravel. Aggregates supplied to specification. Quarries at Wakefield, Ripon, Masham.
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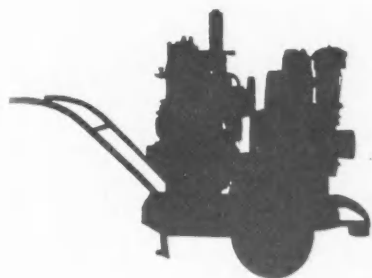
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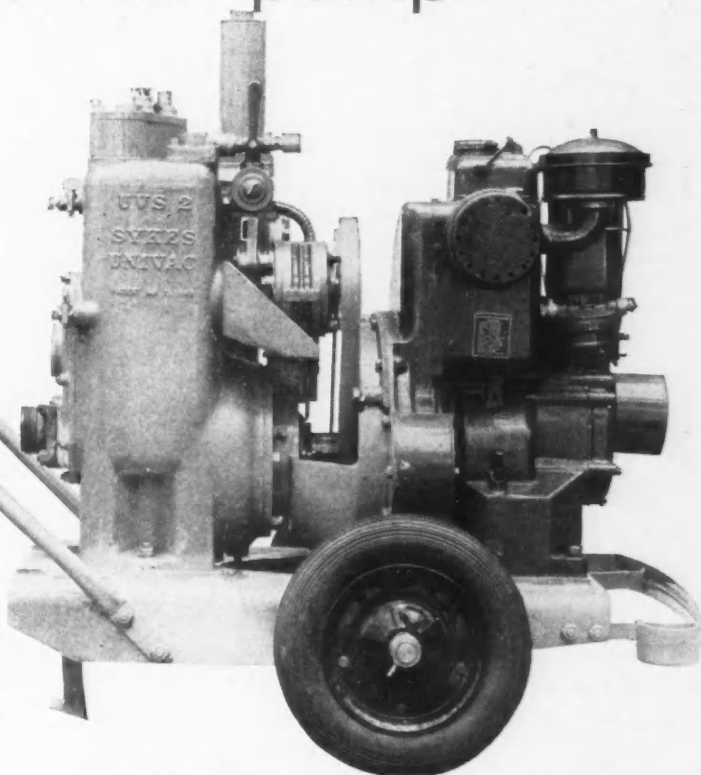
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THE INDEX TO DISPLAYED ADVERTISEMENTS WILL BE FOUND ON PAGE 323

London: Printed and published by the Proprietors, The Contract Journal Company, Ltd., 32 Southwark Bridge Road, S.E.1.
Thursday, January 21, 1960. Registered at the General Post Office as a newspaper.



this is
the new
Sykes
Univac UVS2
2-inch universal pump



The UVS2 is a small pump with a giant performance, and has proved successful on jobs where all other types of pump of a similar size have failed. It offers these advantages:

Over other centrifugal pumps—

No priming water required. Priming many times quicker. Handles thicker slurry and larger solids. Keeps water down to lower level. Works on very long suction lines. Operates small wellpoint systems.

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Output, size for size, many times greater. Equal air handling capacity. Operates on small flows and smooth slurries. Much superior when water contains stones, sand, wood, etc.

May we demonstrate this pump to you and substantiate our claims?

For sale or hire

The pump that succeeds where others fail

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"Multiple Sitework"

Rush and Tompkins Ltd., uses one mobile tractor shovel to work simultaneously on two buildings

THE PROBLEM

Separated by eight miles of busy London streets, two London County Council housing sites are being developed by Rush and Tompkins Limited, one of Britain's major Building Contractors. A general purpose earth moving machine, able to travel under its own power from site to site, was required for clearing and levelling. But, since these jobs did not together add up to a full time assignment, the machine would be used for carrying, loading and stockpiling.

This was the problem facing Mr. Jack Lund, their Plant Manager—to find a Tractor Shovel with good road travel characteristics, with ample horsepower and tractive ability, to work well in wet London clay, and with sufficient versatility to ensure its full-time employment.

THE ANSWER

Mr. Lund decided to put various makes of crawler and rubber tyred shovels on trial and then ordered a Michigan 85A.

"Because of the heavy wet ground conditions", he said, "we had assumed we should need a crawler, but were willing to try a Michigan, as it *could get from one site to the other quickly*".

"The Michigan's performance on trial, however, convinced us that not only could it travel faster, but could handle more than any other machine of comparable horsepower, and it could work efficiently in the congested area of the building operations".

HOW THE MICHIGAN WORKS FOR RUSH AND TOMPKINS LTD.

Twice each week the machine moves from Sydenham Hill Estate to Wandsworth. The eight miles journey takes thirty minutes, and the Michigan arrives ready for work.

Clearing and levelling the heavy clay is the Michigan's primary job. The special power train shows up well in these conditions. Torque build up in the convertor automatically matches the draw-bar requirements—this means more "push" when the

"going is tough". The blade edge is forced through the top layers of muck and the full bucket load is dumped at the end of the run. On the return journey the back edge of the blade levels the ground behind the high flotation tyres leaving a smooth compacted surface. The machine is working throughout the cycle, forward and reverse.

MORE JOBS HANDLED — BETTER

The 85A is too useful to be left idle between clearing operations whether it is loading out lorries with rubble, carrying and stacking, or towing, it is always on call. Always ready for an emergency, its capacity for salvaging other vehicles, emphasises its unique adaptability.

The operator likes the way it handles—he finds he can work right through his shift at top efficiency. The power controls and smooth easy movement cut out the fatigue he has been used to on bone shaking crawlers. He likes the way the Michigan goes right

into the load and comes out with a full bucket every time without jolting.

He can see where he's going and he can get into—and out of—tight corners, to work where normally manual labour would have been employed. The feel of finger tip power and versatility makes him the most useful member of the team, and he is proud of his capacity to speed the job along.

A GOOD CLEAN JOB

Rush and Tompkins Ltd. note how well the Michigan leaves the site, there is no churned up ground to make good, no broken drains, kerbstones or man-hole covers, and since much of the work entails travelling on the Public Highways, this is "money in the bank".

At these two building sites, the Michigan 85A has proved to be the ideal *all-round handling tool*, and has shown it can work long and well in all sorts of ground conditions.

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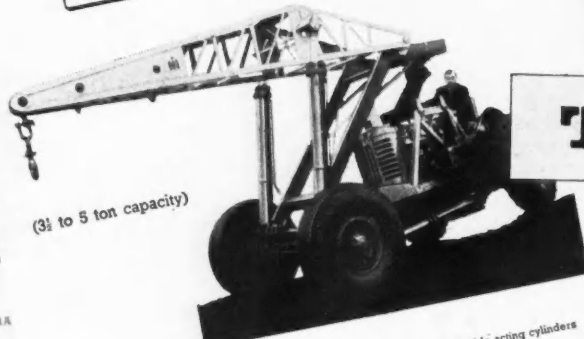


INTERNATIONAL



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B-41-1 MOBILE CRANE



(3½ to 5 ton capacity)

B-41-1 FEATURES

- The jib is raised and lowered hydraulically. Finger tip control to double acting cylinders gives accurate handling and placing of loads.
- Smooth and positive hydraulic steering, gives a 60° slewing movement of the jib.
- Smooth and positive hydraulic pump gives independent supply for both lifting and steering requirements.
- Engine-driven, tandem type, hydraulic pumps with International 55-horsepower steering requirements.
- Highly manoeuvrable with 13 ft 6 in. turning radius for working in confined area. High steering requirements.
- Highly manoeuvrable with speeds up to 14½ m.p.h.
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TD9-426 DIESEL CRAWLER TRACTOR AND INTERNATIONAL DROTT 4-IN-1

ON TYRES



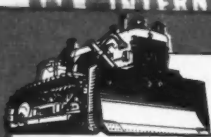
TD9-426 CRAWLER TRACTOR (42 SERIES) FEATURES

- New, International 6-cylinder direct start, turbocharged Diesel Engine.
- Easy-operating engine clutch with long-life intergear facings.
- Selective sliding gear, clutch with long-life intergear facings.
- MPH forward gear, transmission.
- Smooth, long-life intergear facings.

4-in-1 Features

- Compact Design
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- Compact Hydraulic Pumps
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- Double Hydraulic Pumps
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